BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF SOUTH CAROLINA

In the Matter of the Petition of the South Carolina Telephone Coalition for a Determination that Wireless Carriers are Providing Radio-Based Local Exchange Services in South Carolina that Compete with Local Telecommunications Services Provided in the State	Docket 2015-290-C

DIRECT TESTIMONY OF LARRY THOMPSON
ON BEHALF OF SOUTH CAROLINA TELEPHONE COALITION

September 29, 2015

INTRODUCTION

Q. Please state your name, employer, business address and telephone number.

A. My name is Larry Thompson. I am the Chief Executive Officer of Vantage Point Solutions, Inc. ("Vantage Point"). My business address is 2211 North Minnesota Street, Mitchell, South Dakota, 57301.

Q. Generally, what types of services does Vantage Point provide and for whom?

A. Vantage Point is a telecommunications engineering and consulting company who provides services to both wireless and wireline companies. These services include, but are not limited to, long-range communication planning, feasibility studies, emerging technology analysis, migration studies, professional engineering and implementation management for telecommunications electronic equipment including wireless and wireline switching and transport, outside plant engineering, RF engineering, field services engineering, and cost separation studies and regulatory consulting. We provide these services to more than 300 Independent Local Exchange Companies ("ILECs") throughout the United States. We have more than 180 full-time employees on staff.

Q. What are your duties and responsibilities at Vantage Point?

A. I provide consulting and professional engineering services to Vantage Point's clients in a wide array of technical and regulatory areas associated with telecommunications. I am also responsible for the normal duties you would expect from the chief executive officer for a company of our size.

Q. Please describe your educational background and experience.

A. I have a Bachelor of Arts in Physics from William Jewell College in Liberty, Missouri, and both Bachelor's and Master's degrees in Electrical and Computer Engineering from the University of Kansas in Lawrence, Kansas.

In 1985, I was hired by TRW, Inc. in Redondo Beach, California to work as a member of its technical staff as a systems engineer. My responsibilities included system design of the communications payloads for classified and unclassified satellite systems and ground stations. In 1991, I began working for CyberLink Corporation in Boulder, Colorado as a Senior Engineer. At CyberLink, I provided engineering and technical consulting services regarding voice and data networks for a broad range of government and private sector businesses. In 1996, I accepted a position as a Senior Professional Engineer with Martin and Associates, Inc. in Mitchell, South Dakota. While at Martin and Associates, I designed and engineered fiber optic transport networks, broadband access networks, packet video networks and wireless networks. During my tenure at Martin and Associates (and later Martin Group, Inc.), I was promoted to the General Manager of the Telecommunications, Consulting, and Engineering Group (TCE) and had overall responsibility for the consulting and engineering services provided by Martin Group. In 2002, I was a founder of Vantage Point and have served as its CEO since its inception, as described previously. While at Vantage Point, I have provided wireline and wireless engineering services to a variety of national and international clients. I have also provided strategic and business planning to many telecommunications companies as well as authored numerous papers on a variety of technical subjects.

I have been a member of NECA's Rate Development Task Force for the last 12 years and have served on NECA's Access Evolution Task Force. I am a current member of NTCA's Industry and Regulatory Policy Committee and NTCA's IP Evolution Workgroup.

Q. Do you hold any professional engineering licenses?

A. Yes. I am a licensed professional engineer in twenty-one states. I am also a member of the National Council of Examiners for Engineering and Surveying (NCEES).

Q. What types of regulatory and technical proceedings have you provided testimony in previously?

A. I have provided regulatory and technical testimony in several proceedings in other states in regards to wireless Intra-MTA factors, interconnection agreements, phantom traffic, tandem re-homing, wireline competition, wireless/wireline network capabilities, and forward looking economic cost studies. I have also testified in Federal litigation cases and presented at Federal Communications Commission (FCC), State Utility Commission, and United States Senate forums and workshops.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of South Carolina Telephone Coalition (SCTC). SCTC member companies are rural local exchange carriers operating in South Carolina, and are subject to the jurisdiction of the Public Service Commission of South Carolina (the "Commission"). SCTC member companies are telecommunications carriers who contribute to the South Carolina Universal Service Fund ("State USF"). They are also carriers of last resort in their respective service areas and, as such, they are eligible to draw State USF.

Q. Do SCTC member companies provide both telephone exchange and exchange access services?

A. Yes.

Q. Are you familiar with Local Exchange Carrier (LEC) and wireless mobile telephone carrier networks?

A. Yes, I am familiar with Local Exchange Carrier (LEC) and wireless mobile telephone carrier networks as well as the services they provide in South Carolina.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide regulatory and engineering facts relating to Docket 2015-290-C to assist the Commission in making a determination as to whether retail wireless telephone carriers, often known as cellular telephone carriers, and who provide fixed and mobile voice services in South Carolina, are providing services that compete with wireline LEC voice services, and whether they are providing radio-based local exchange services in the state that compete with local telecommunications service provided in the state. My testimony will address three major similarities between wireline and wireless telecommunications services, whether fixed or mobile. These include service territory, end user experience and network similarities.

SERVICE TERRITORY AND COMPETITIVE SIMILARITIES

Q. Are there similarities between wireline and wireless telephone carrier voice service territories?

A. Yes. Both wireline and wireless telephone carriers provide voice services to subscribers in South Carolina, and more specifically, in SCTC member territories.

Q. Do the similarities include SCTC member company service areas?

A. Yes.

Q. What evidence do you have of these voice service territory similarities?

A. Exhibit LT-1 shows the service territories of the SCTC member companies, which together occupy approximately one third of the geography of South Carolina. Coverage maps obtained from the websites of the four largest wireless telephone carriers – Verizon Wireless, AT&T, Sprint and T-Mobile (Exhibits LT-2 through LT-5) show that voice service is provided by each in South Carolina, and that it is provided in SCTC member company service territories.

Q. Do the wireless telephone carriers provide ubiquitous coverage throughout the state?

A. No. The foregoing exhibits demonstrate that no wireless carrier provides coverage everywhere in the State. In addition, the level or type of service shown to be available from each wireless carrier varies within the coverage claimed on their maps. Not shown on their maps, however, is any gradient for signal quality. Signal quality can vary dramatically within the claimed coverage areas. Signal can be very weak or non-existent along the coverage edges and between towers (also not shown), and exacerbated by terrain features and different types of ground cover, whether it be buildings, trees, farmland, etc., all of which attenuate the radio signal. The maps also do not show the coverage available inside of buildings. The quality of in-building coverage can vary dramatically depending upon the radio frequency being used and its attenuation due to the type and number of walls or other barriers that the wireless signal must penetrate. It follows, then, that just because a location may appear to be within a wireless telephone carrier's depicted coverage does not necessarily mean that voice communications will be reliable at that location, in-building or out.

Nonetheless, ubiquitously reliable coverage is not required for the services to be competitive. While the coverage maps do not have the level of detail required to know exactly where coverage is available, it is clear that there is reliable voice communications

within the coalition member territories, and thus, that competitive voice service are being provided by the wireless telephone carriers.

Q. How can telecommunications services be determined to be "competitive"?

A. Telecommunications services are competitive if the same service, its functional equivalent, or a substitute service is available from two or more providers in a given geographic area. The size of the complete service territory of either provider in relation to the other is immaterial; same, functionally equivalent or substitute services will be competitive wherever service territories overlap. As a practical matter, two services in any marketplace naturally cannot compete if they are not similar.

Q. Is there a basis to support that wireless telephone carriers compete with wireline local exchange telephone carriers for voice service?

A. Yes. According to information provided by the Centers for Disease Control and Prevention, which has been tracking phone ownership in the U.S. twice a year since 2003 as part of its National Health Interview Survey, the percentage of households with only landline telephone service has fallen dramatically over the last 12 years. In 2003, more than nine out of every ten households had landline telephone service whereas today it is nearly 5 of 10 households. Meanwhile, the percentage of US households with wireless telephone service only has risen essentially inversely to this during the same period, from less than one out of every twenty households being wireless-only in 2003 to almost one out of every two households today.[1] I have charted the data from the CDC reports in Figure 1.

[1] *See* Wireless Substitution: Early Release of Estimates Based on Data from the National Health Interview Survey 2003-2014 (http://www.cdc.gov/nchs/nhis/releases.htm#wireless).

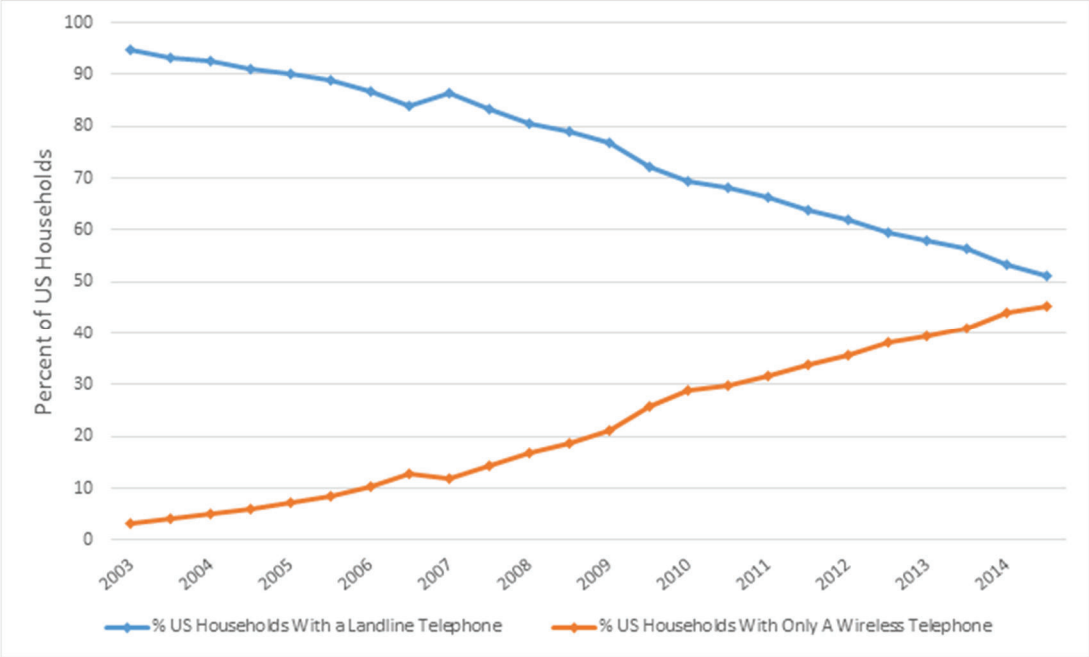
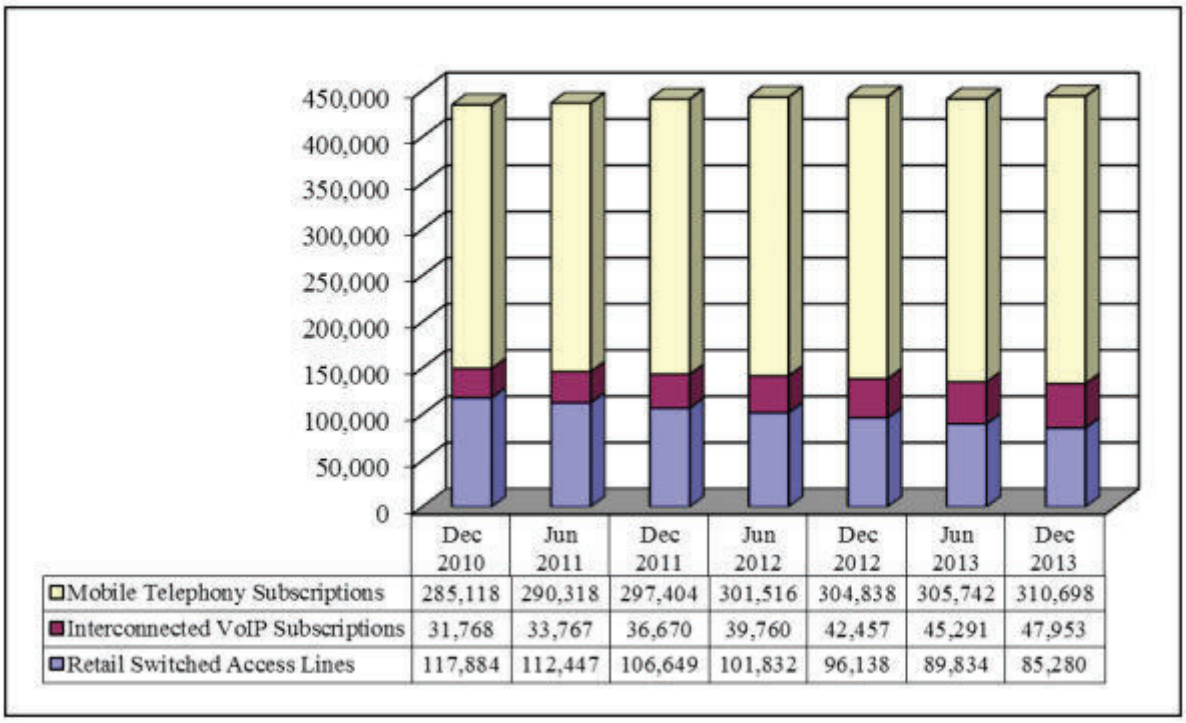


Figure 1 – Percent of U.S. Households with Landline and Wireless-Only Telephone

Similarly, Figure 2 repeats a chart from the FCC's latest Local Telephone Competition report of October 2014[2], which shows that while the number of total subscriptions for telephony (which the FCC distinguishes from broadband) has remained relatively constant, the decline in retail switched access lines (traditional LEC service) has been supplanted largely by increasing wireless telephony subscriptions.

[2] Local Telecommunications Competition: Status as of December 31, 2013, Industry Analysis and Technology Division, Wireline Competition Bureau, FCC (October 2014), at p. 2. Link: https://apps.fcc.gov/edocs_public/attachmatch/DOC-329975A1.pdf.

Figure 1
Retail Local Telephone Service Connections, 2010 - 2013
(In Thousands)



	Dec 2010	Jun 2011	Dec 2011	Jun 2012	Dec 2012	Jun 2013	Dec 2013
Mobile Telephony Subscriptions	285,118	290,318	297,404	301,516	304,838	305,742	310,698
Interconnected VoIP Subscriptions	31,768	33,767	36,670	39,760	42,457	45,291	47,953
Retail Switched Access Lines	117,884	112,447	106,649	101,832	96,138	89,834	85,280

Figure 2 - Figure 1 of FCC's "Local Competition Report: Status as of December 31, 2013"

This supplanting would be unlikely to occur if wireline and wireless telephone services were not similar. But regardless of market share, it is clear that the services are competitive in the same marketplace. Indeed, the FCC recognizes wireless telephone carriers as "providers of local telephone service," stating in its Introduction that its report "summarizes subscribership information [collected] from *providers of local telephone service* (emphasis added) – the incumbent local exchange carriers (ILECs), competitive local exchange carriers (CLECs), and *mobile telephony providers* (emphasis added)…;" and, that "Retail local telephone service customers are served by two wireline technologies

– "end-user" switched access lines and interconnected VoIP "subscriptions" – and by mobile wireless subscriptions."[3].

Further, it is abundantly clear that wireless telephone carriers have long targeted wireline telephone carriers in their advertising. A well-known early example was T-Mobile's television advertisement for its @Home service, depicting a young lady cutting down a utility pole with a chainsaw, with the voice-over stating, "Your home phone company is going down."

And currently, the top three major wireless telephone carriers remain unabashed about targeting local exchange carriers on their websites. Verizon says, "Rethink Your Home Phone Service. Wireless Home Phone offers you a reliable, portable, low-cost alternative to traditional home phone service using the Verizon Wireless network all while keeping your same number and home phone."[4] AT&T says, "A great way to save on home phone service - Go wireless at home. AT&T Wireless Home Phone is a low-cost alternative to traditional home phone service, works over the AT&T wireless network, and uses your existing home phone number and handsets."[5] And Sprint attacks the wireline competition with, "Sprint Phone Connect 3 - Lose the landline and boost your savings. The Sprint Phone Connect 3 lets you drop your landline in favor of domestic voice service over Sprint's 3G network. It offers all of the features of landline calling for just…"[6] Again, this advertising by the major wireless telephone carriers would be completely counter-intuitive

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[3] *Id.*

[4] http://www.verizonwireless.com/wcms/consumer/home-services/tv-internet-homephone/wireless-home-phone.html, accessed September 22, 2015.

[5] http://www.att.com/cellphones/att/att-wireless-home-phone.html#sku=sku7250257, accessed September 22, 2015.

[6] http://shop.sprint.com/mysprint/shop/phone_details.jsp?deviceSKUId=84000014&isDeeplinked=true#!/, accessed September 22, 2015.

if the services they offer were not similar to and competitive with wireline local exchange carrier service.

Finally, Verizon itself clearly recognizes the direct competitiveness of the two services in its Annual Report, where it reports that in 2014, "The increase in Mass markets revenues was partially offset by the decline of local exchange revenues primarily due to a 5.5% *decline in Consumer retail voice connections resulting primarily from competition and technology substitution with wireless*, competing VoIP, and cable telephony services"[7] (emphasis added). Verizon goes on to report that this same trend occurred during 2013, stating: "The increase in Mass markets revenues, driven by FiOS services, was partially offset by the decline of local exchange revenues primarily due to a 5.2% *decline in Consumer retail voice connections resulting primarily from competition and technology substitution with wireless*, VoIP, broadband and cable services"[8] (emphasis added).

END USER EXPERIENCE SIMILARITIES BETWEEN WIRELINE AND WIRELESS TELEPHONE CARRIERS

Q. How can Local Exchange Service be defined?

A. The Federal Telecom Act defines "telephone exchange service" as: (A) service within a telephone exchange, or within a connected system of telephone exchanges within the same exchange area operated to furnish to subscribers intercommunicating service of the character ordinarily furnished by a single exchange, and which is covered by the exchange service charge, or (B) *comparable service* (emphasis added) provided through a system of

[7] Verizon 2014 Annual Report, p.21.

[8] *Id.*

switches, transmission equipment, or other facilities (or combination thereof) by which a subscriber can originate and terminate a telecommunications service."[9]

Q. Does Local Exchange Service include the ability to dial numbers to or receive calls from outside of the local exchange?

A. Yes, this is the "exchange access" portion. Verizon for instance defines Local Exchange Service as "A telecommunications service that connects a subscriber to the Public Switched Telephone Network (PSTN)."[10] Verizon goes on to define the PSTN as "1. The worldwide voice telephone network. 2. Any common carrier network that provides circuit switching among public users."[11] This would include wireless mobile telephone carriers.

Q. Can wireless telephone carriers' end users place calls to any/all telephones within a local exchange, comparable to Local Exchange Carrier (LEC) end users' ability to do so?

A. Yes.

Q. Can wireless telephone carriers' end users place calls to and receive calls from telephones outside of a local exchange, as can LEC end users?

A. Yes. All calls to or from telephones in any distant local exchange are accomplished through the wireless telephone carrier's interconnection within the PSTN, of which both the wireless telephone carrier and the LEC are a part, as discussed later in my testimony.

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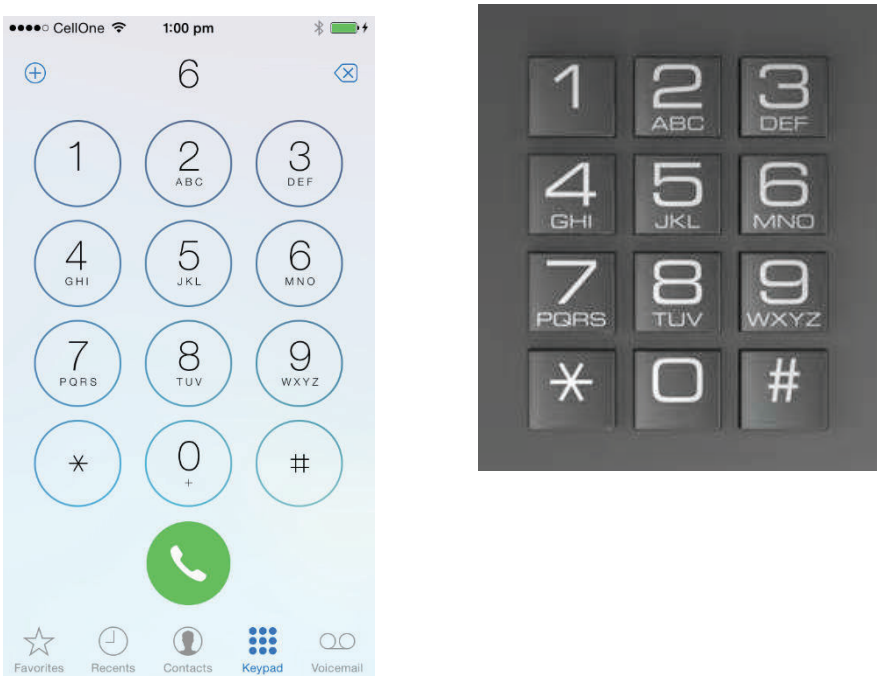
[9] 47 U.S.C. § 153(54).

[10] https://www22.verizon.com/wholesale/glossary/Glossary-of-Telecom-Terms-l.html, accessed September 10, 2015.

[11] https://www22.verizon.com/wholesale/glossary/Glossary-of-Telecom-Terms-p.html, accessed September 11, 2015.

Q. Is dialing a number the same for wireless telephone carriers' end users as for LECs' end users?

A. Yes, with only negligible differences. The number dialing keypad on the wireless telephone, like for instance the well-known iPhone keypad screen shown on the left in Figure 3, follows the familiar keypad format long used on wireless telephones, shown to its right.



iPhone Keypad Screen Wireline Telephone Keypad Format

Figure 3 - Wireless Telephone Keypad Follows Wireline Telephone Keypad Format

The number dialing pattern for the wireless telephone user is the same as for the LEC end user, except the requirement to dial 1+ to reach numbers outside the local exchange may differ between the various wireless and wireline local exchange carrier offerings. The ability to hear Touch-Tones™ or other keystroke confirmation "side-tones" are optional for the wireless telephone, similar to LEC end user cordless telephones. Rather than first hearing dial-tone upon coming "off-hook," a wireless telephone user must press Send to initiate a call once the dialed numbers are entered, as may be similarly optioned for a LEC

end user's cordless telephone; and, like a cordless telephone, "End" must be pressed on the wireless telephone to terminate a call rather than physically going on-hook. In fact "Send" and "End" are depicted on the wireless telephone as a traditional telephone receiver going off-hook and on-hook, as shown for example on the popular Samsung Galaxy's wireless "smartphone's" call screen shown in Figure 4, and as the former can be seen on the wireless iPhone in Figure 3.

Figure 4 - Samsung Galaxy Call Screen

Q. Do wireless telephone carriers' end users receive the same progress tones as LEC end users during setup or tear-down of a call?

A. Yes, the common progress tones are the same. For instance, ring-back; busy, and re-order (fast-busy) signals heard on wireless systems are all the same as those heard on wireline systems and have the same meanings.

Q. Can wireless telephone carriers' end users receive Caller ID as do LEC end users?

A. Yes.

Q. Can wireless telephone carriers' end users reach the same adjunct services as LEC end users?

A. Yes. Wireless telephone users for example can dial the same numbers as do LEC end users for Information, Operator and Operator-assisted calls, 800 toll-free, 900 and VoiceMail services.

Q. Can wireless telephone carriers' end users over-dial Touch-Tones™ from their telephone keypads when needed for downstream services beyond the called number, such as to manipulate Voice Mail service?

A. Yes. This can be done with both wireless and wireline phones.

Q. Can wireless telephone carriers' end users dial 911 in an emergency?

A. Yes, and they will reach a Public Safety Answering Point (PSAP) just like a LEC wireline end user would reach when dialing 911.

Q. Is the PSAP receiving a wireless telephone user's 911 call provided with the end user's location?

A. Yes. When a LEC end user dials 911, the end user's call-back number and location is automatically provided to the PSAP from a location database that is part of the LEC's network and is indexed to the end user's calling number. When a wireless telephone dials 911, the wireless telephone's call-back number and location is automatically provided to the PSAP from a location determination system that is part of the mobile telephone carrier's network.

Q. Can LECs' end users port their telephone numbers to wireless telephone carriers and vice versa?

A. Yes. In fact this capability is utilized by wireless telephone carriers as an encouragement for LEC subscribers to do so, as evidenced in their competitive advertising for home telephone service cited earlier in my testimony.

Q. Are there differences between the wireline and wireless telephone carriers' end user experience?

A. Yes, but very few. The primary difference is that the customer end of the connection is wireless for the wireless customer, which allows for increased customer mobility. A wireline end user with a cordless telephone also has mobility, albeit on a smaller scale. The remaining differences are also minor. A LEC may provide White Pages listings while mobile telephone carriers generally do not. Wireless telephone users do not hear dial-tone for call origination. Wireless telephone users must routinely charge the batteries in their end user devices while LEC end users may not need to do so if not using cordless telephones.

Q. Are any of the differing characteristics between wireline and wireless telephone end user experiences critical to the provision of local exchange voice telephone service?

A. No. There may be some calling scope differences, but in the local areas where both are providing telephone service, and where there is adequate radio coverage for reliable wireless telephone service, the two networks provide comparable telephony services for the provision of dial-up voice communications to/from users in local exchanges.

Q. What other evidence do you have that the two networks provide comparable telephony services?

A. "Lifeline" support, originally received only by traditional LECs for this important voice telephony service, is also being collected by wireless telephone carriers. The FCC states, "Since 1985, the Lifeline program has provided a discount on phone service for qualifying low-income consumers to ensure that all Americans have the opportunities and security that phone service brings, including being able to connect to jobs, family and emergency services. In 2005, Lifeline discounts were made available to qualifying low-income consumers on pre-paid wireless service plans in addition to traditional wireline service. Lifeline is part of the Universal Service Fund."[12] As the FCC through its oversight of the Universal Service Administrative Company (USAC) is supporting wireless telephone service in the same way as "traditional wireline service," to provide "the opportunities and security that phone service brings," indeed, it is apparent that wireless telephone service is comparable to traditional LEC service.

NETWORK SIMILARITIES BETWEEN WIRELINE AND WIRELESS TELEPHONE CARRIERS

Q. Are there similarities between wireline and wireless telephone carrier voice networks?

A. Yes, very much so, especially where the local exchange service, whether wireless or wireline, functions to provide "exchange access," *i.e.,* to connect calls to/from the interexchange portion of the PSTN. As shown in the PSTN diagram in Figure 5, the wireless telephone carrier's voice switch (the Mobile Telephone Switching Office or MTSO) interfaces within the PSTN in the same manner as any LEC end office switch, and for that matter, in the same manner as any local/access tandem office switch.

[12] https://www.fcc.gov/lifeline, accessed September 18, 2015.

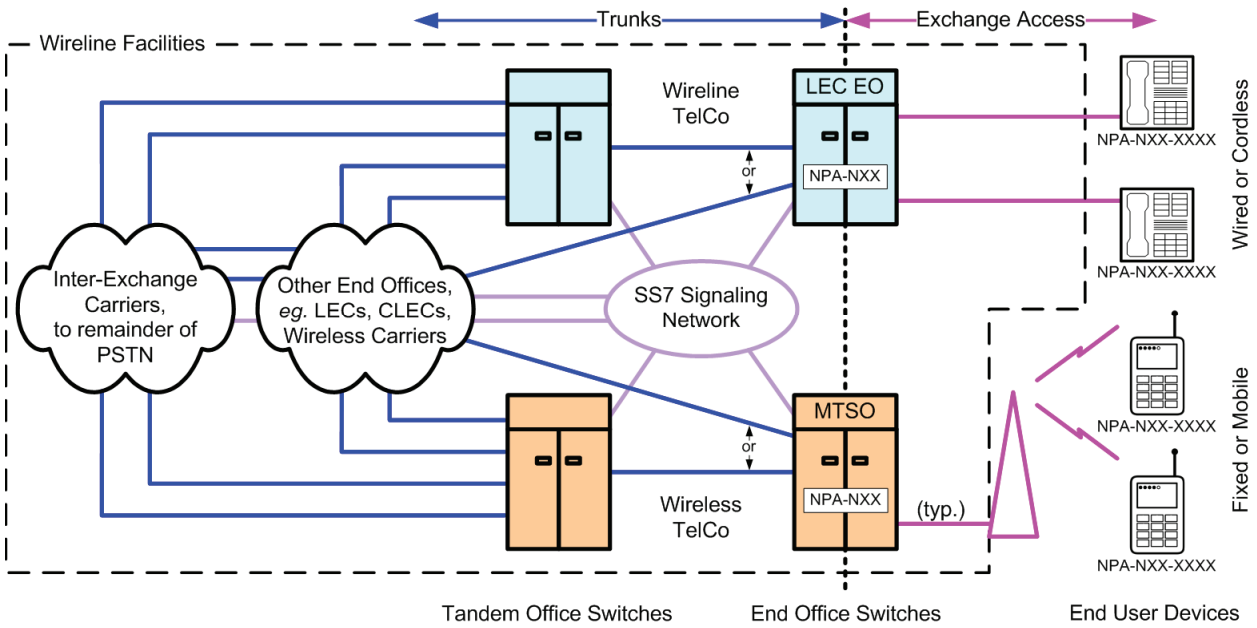


Figure 5 - The PSTN

For both, access subscriber's voice signal on the "line" or equivalent side of the end office is switched to/from available trunks either directly to/from other end offices, or, to/from tandem offices – whether they are wireline or wireless offices, for continuing trunked connections to/from the distant end party via the PSTN, whether that distant party is a wireless telephone subtending a wireless end office switch or a LEC telephone subtending a LEC end office switch. Both systems may aggregate their local access behind access tandem offices for trunked access to/from inter-exchange carriers for long distance service. Both systems must follow the North American Numbering Plan Association's (NANPA's) regulations and methodology for assigning telephone numbers to their end users, including obtaining exchange numbers (NXXs) within NANPA Numbering Plan Areas (NPAs, or "area codes") for their end office Points of Interconnection (POIs). Both systems must participate in the same authoritative data bases in order to route calls over the PSTN. Both utilize Signaling System 7 (SS7) (or its internet protocol equivalent) for signaling to/from other offices for call set-up, routing and supervision. Thus, both wireline and wireless telephone providers are integral parts of the PSTN, and function equivalently in interfacing

within it. Even for wireless-to-wireless calls among parties within the same local exchange, where there is no interconnection to the larger PSTN, the wireless telephone switch functions equivalently to the LEC end office switch, interpreting dialed digits, setting up audible voice calls between its calling and called party access subscribers, and supervising those calls.

Q. Do wireless calls utilize Local Exchange Carrier facilities?

A. Yes, in almost all cases both of the networks use the same facilities, as depicted in Figure 6. Even in the case of a local wireless-to-wireless call, wireless telephone carriers usually use wireline facilities to go from their cell sites (radio access points) to their switch, which carry all calls including wireless-to-wireless calls.

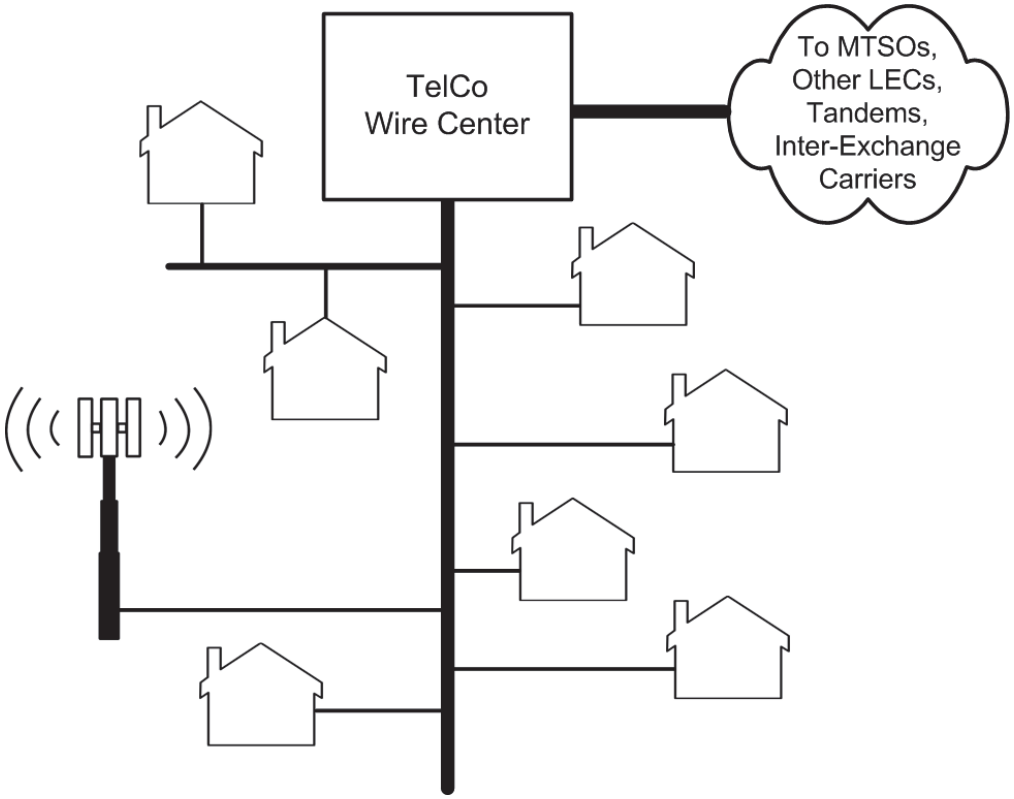


Figure 6 - Typical Telephone Company Facilities Plant

The use and importance of having a ubiquitous wireline network for this purpose is evidenced by AT&T, which provides both wireless and wireline telephone service. In its 2014 Annual Report, AT&T acknowledges, "Improvements in our service depend on many factors… We must maintain and expand our [wireless] network capacity and coverage as well as the associated wireline network needed to transport voice and data between cell sites."[13]

The wireline facilities that transport the wireless call often are the same facilities that are handling the wireline calls also, and often represent the vast majority of the mileage between the parties. For example, if a wireless customer in South Carolina calls a wireless customer in California, it goes a short distance via radio to the cell site as shown in Figure 5, but at that point it is put on a wireline facility, most commonly fiber-optic today, and it travels thousands of miles on a wireline network to California until it makes its way to another cell site, and then goes via radio a short distance to the other wireless customer. Except for the short radio access segment on each end, one can hardly tell that it was a wireless call; it is using the same infrastructure as the wireline carriers for the vast majority of the distance between the parties. In the example call from South Carolina to California, the wireless call would be on radio waves for much less than 1% of the distance and traveling on a network shared with wireline telephones for more than 99% of the distance. In fact, the wireless carriers try hard to minimize the radio segment for a call, and try to get it to a wireline network as soon as possible. This is increasingly true with their growing use of "small cells" in or near offices and homes.

[13] AT&T INC. 2014 Annual Report, p.38.

Q. Are there characteristics that differ between the wireline and wireless telephone carriers' networks?

A. The only difference is the subscriber access method, *i.e.*, the facility that connects the carrier's subscriber to the carrier's network. Access is "radio based" for the wireless telephone provider, accomplished by providing an available radio channel (or a logical portion of one) upon demand to the wireless subscriber, as opposed to a wireline facility or "local loop" provided to the LEC subscriber. However, the access methods are functionally equivalent and transparent to the end user. Wireless telephone carriers even advertise their increments of service to their end users as being "lines" of service. T-Mobile for example, a wireless-only carrier, currently is advertising a "2 *Lines* Plan" while referring to the subscriber's "Primary *Line*" and asking "How many *lines* do you need?"[14] (emphasis added). Verizon Wireless similarly refers to its "Verizon Plan for 1-10 *lines*"[15] (emphasis added).

Q. Can the "radio based" wireless telephone service in any way be construed as not being provided by a modulated radio frequency signal?

A. No. The only way that any information can be communicated over any radio frequency (RF) carrier is to modulate it (*i.e.,* change one or more aspects of it, such as its power, frequency or phase) in a manner representing the user's communication. In the case of wireless telephone, the user's communication is an electrically changing signal representing voice, which is used to modulate an RF carrier or carriers, which are simply transmitted frequencies within various bands and blocks of spectrum licensed to wireless carriers or otherwise controlled by the FCC. This is true for all forms of wireless radio telephone technologies.

[14] http://www.t-mobile.com/cell-phone-plans/family.html, accessed September 17, 2015.

[15] http://www.verizonwireless.com/hp/landingpages/b2b/voice-data-plans/, accessed September 17, 2015.

Q. Are any of the differing characteristics between wireline and wireless telephone carrier networks critical to the provision of local exchange voice telephone service?

A. No. Even though they vary in subscriber access methods, the networks are functionally equivalent in carrying voice telephony or "telephone exchange" service, even if focusing purely on calls between two wireless users in a local exchange; and, they are identical in providing "exchange access" connectivity to the PSTN.

Q. What would you recommend the Commission do in this matter?

A. As wireline and wireless telephone carrier voice telephony services are functionally equivalent in all three important categories of consideration: service territory similarities, end user experience similarities and network similarities, and have been shown to be competitive, I would respectfully recommend that the Commission find that wireless service competes with local wireline telecommunications service in South Carolina.

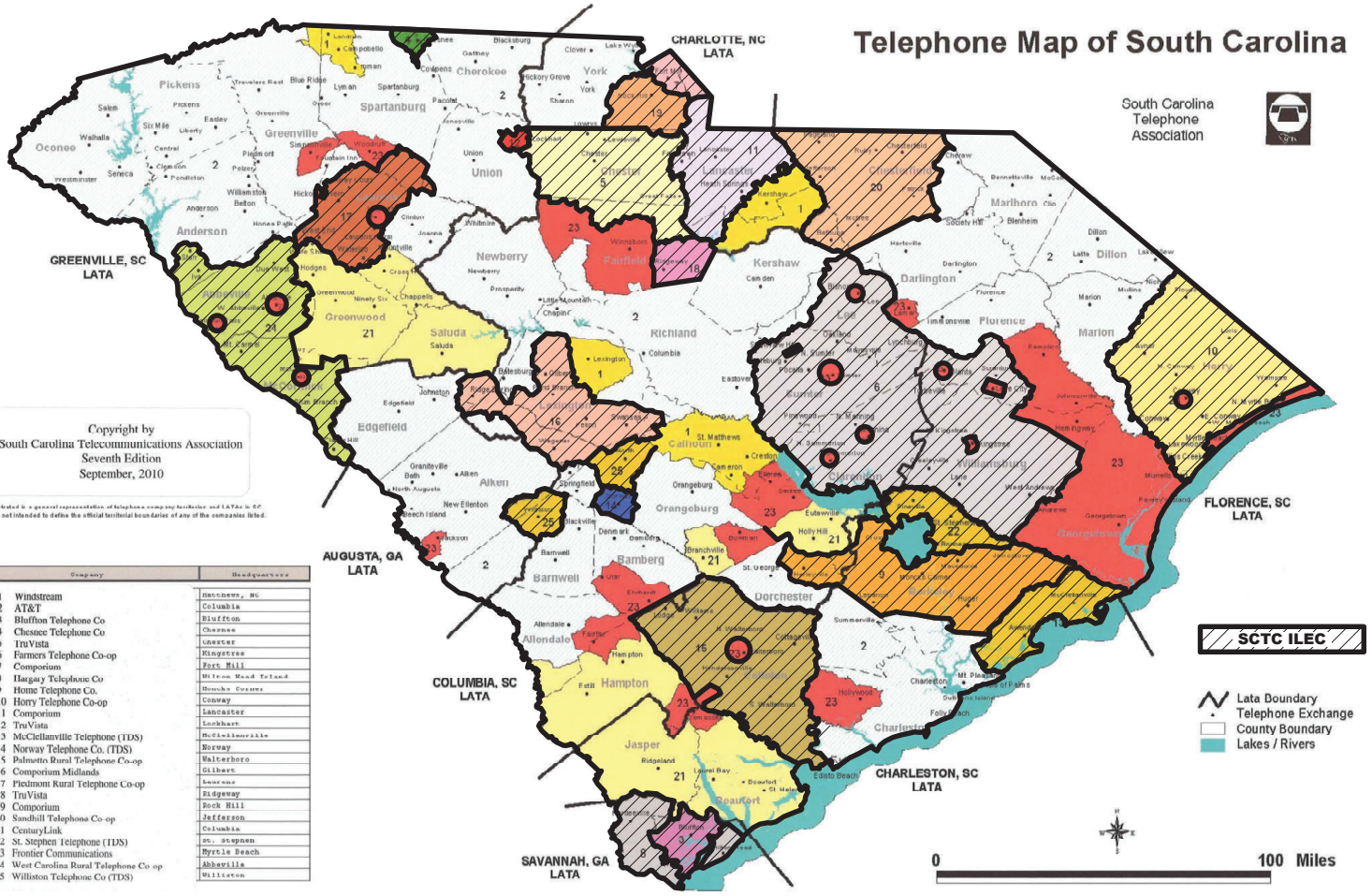
Q. Does that conclude your testimony?

A. Yes.

Exhibit LT-1

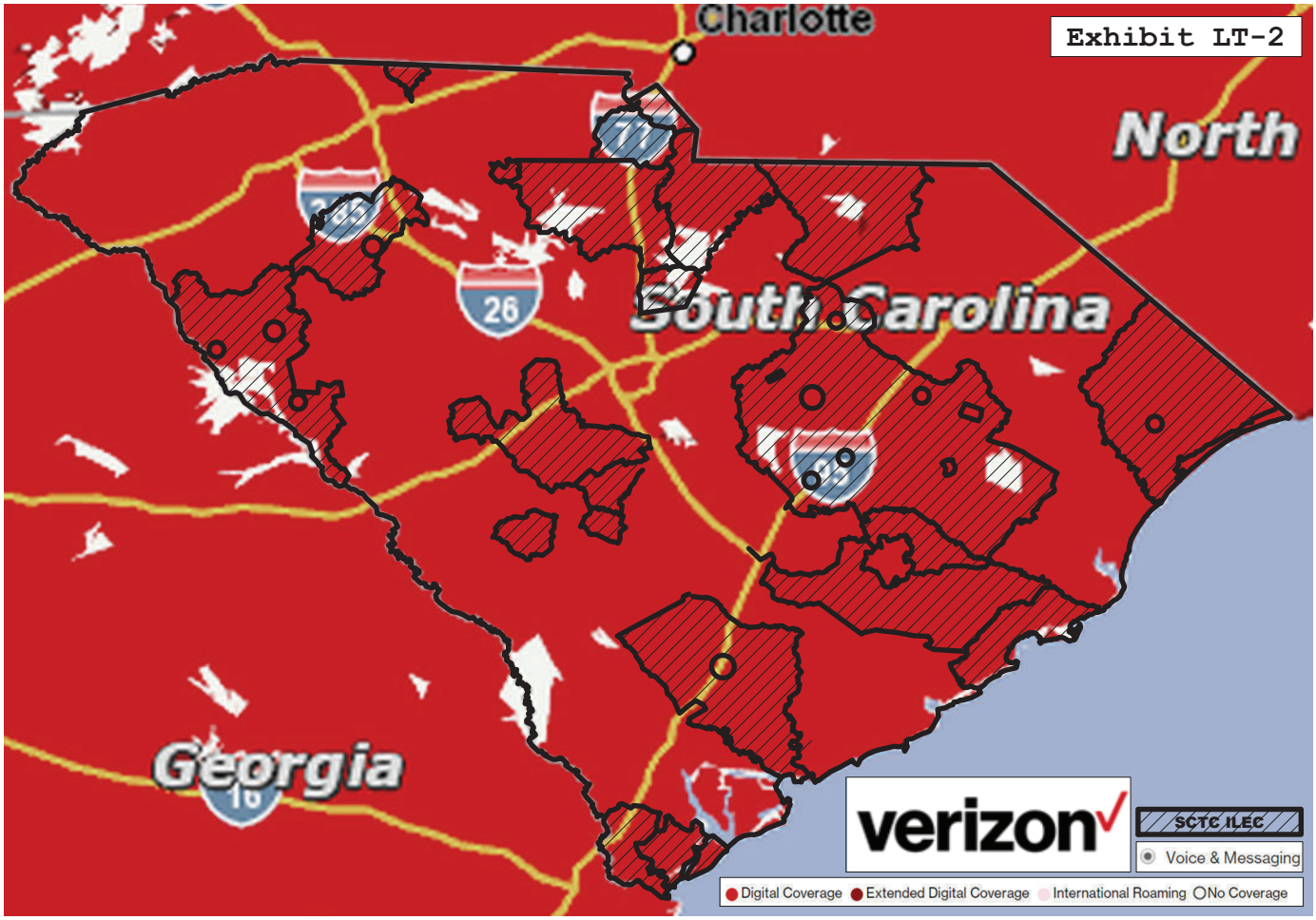
Telephone Map of South Carolina

South Carolina Telephone Association

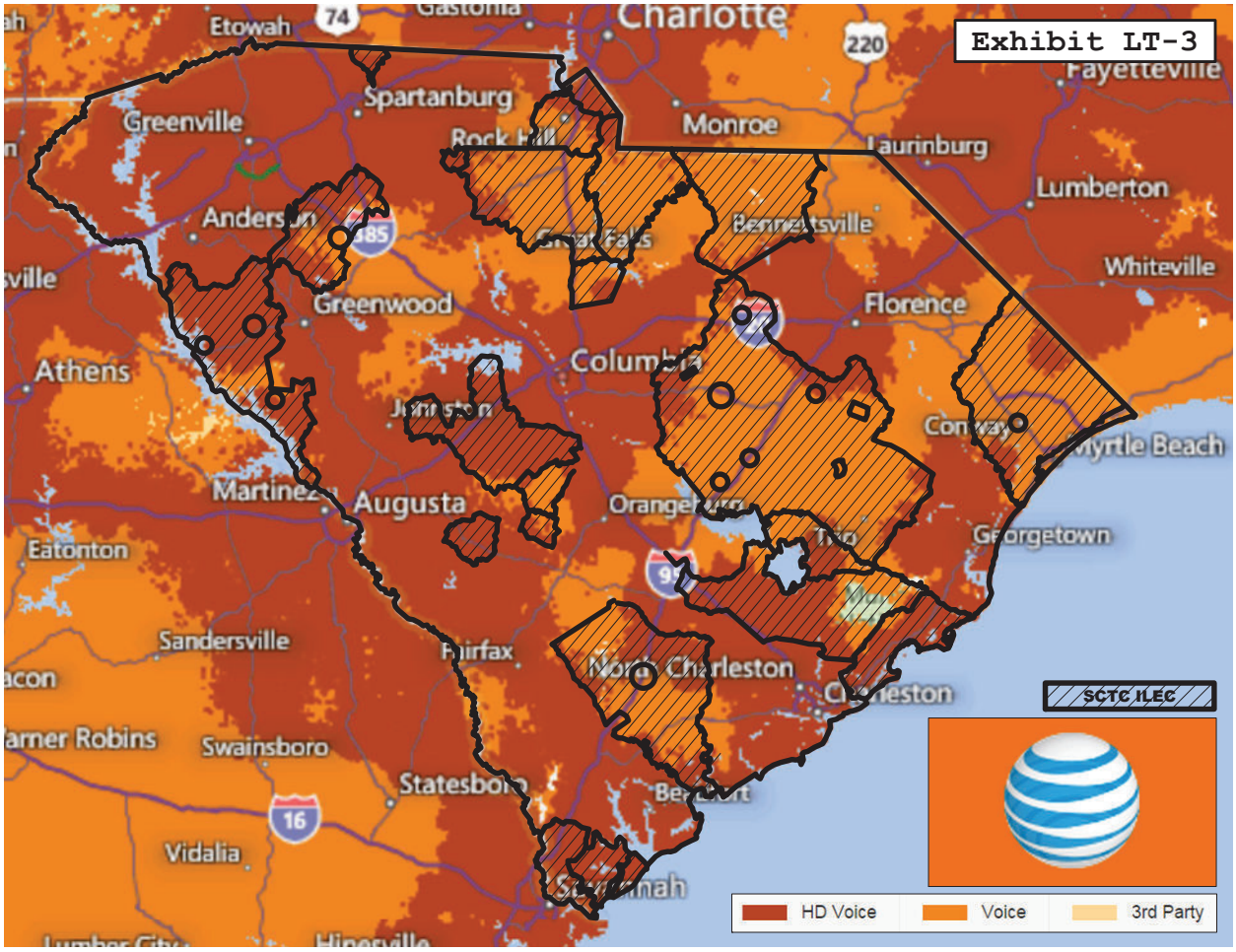


Included is a general representation of telephone company territories and LATAs in SC. It is not intended to define the official territorial boundaries of any of the companies listed.

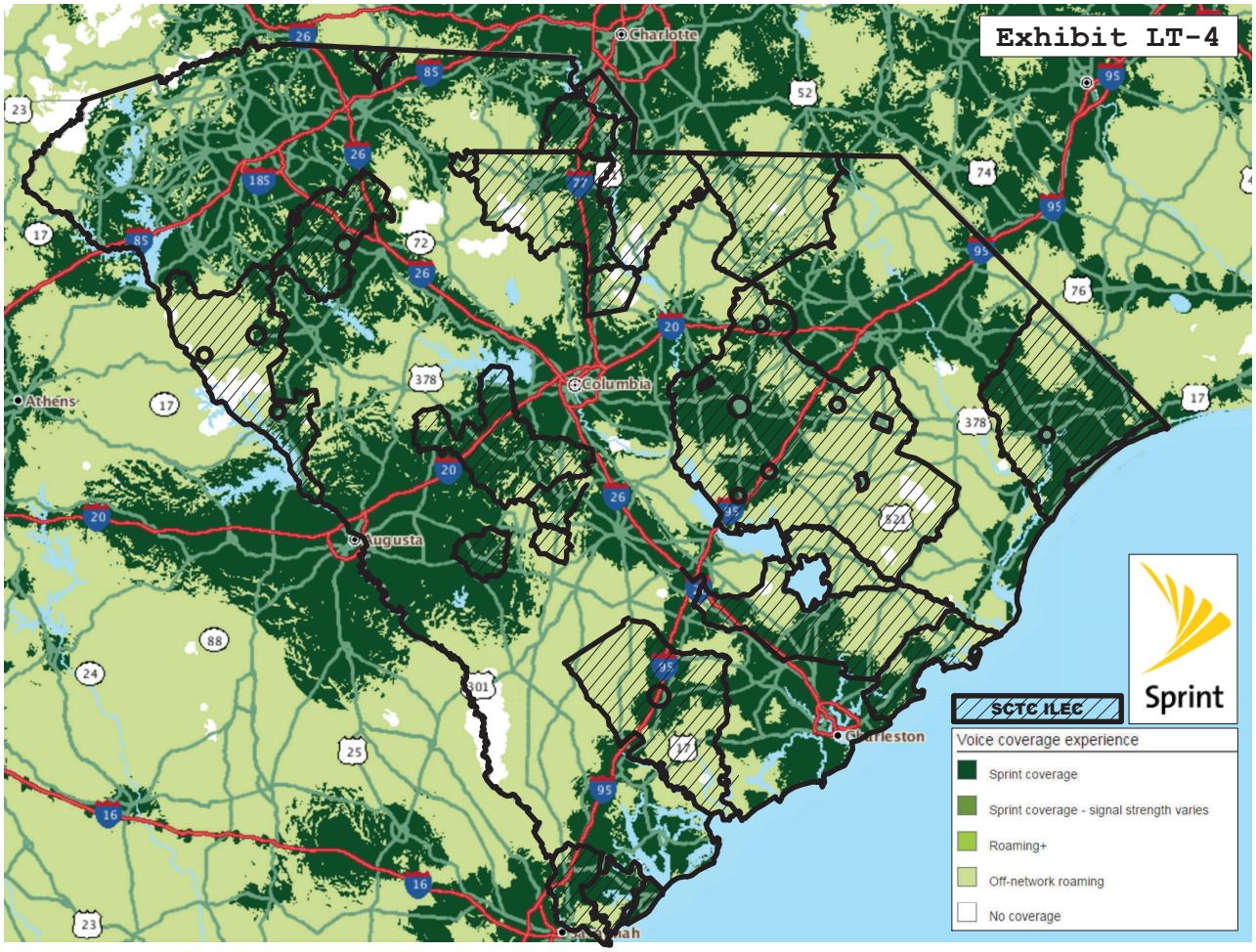
Area		Company	Headquarters
1	1	Windstream	Hatteras, NC
2	2	AT&T	Columbia
3	3	Bluffton Telephone Co	Bluffton
4	4	Chesnee Telephone Co	Chesnee
5	5	TruVista	Chester
6	6	Farmers Telephone Co-op	Kingstree
7	7	Comporium	Fort Mill
8	8	Hargay Telephone Co	Hilton Head Island
9	9	Home Telephone Co.	Beaufort County
10	10	Horry Telephone Co-op	Conway
11	11	Comporium	Lancaster
12	12	TruVista	Lockhart
13	13	McClellanville Telephone (TDS)	McClellanville
14	14	Norway Telephone Co. (TDS)	Norway
15	15	Palmetto Rural Telephone Co-op	Walterboro
16	16	Comporium Midlands	Gilbert
17	17	Piedmont Rural Telephone Co-op	Laurens
18	18	TruVista	Ridgeway
19	19	Comporium	Rock Hill
20	20	Sandhill Telephone Co-op	Jefferson
21	21	CenturyLink	Columbia
22	22	St. Stephen Telephone (TDS)	St. Stephen
23	23	Frontier Communications	Myrtle Beach
24	24	West Carolina Rural Telephone Co-op	Abbeville
25	25	Williston Telephone Co (TDS)	Williston



https://vzwmap.verizonwireless.com/dotcom/coveragelocator/default.aspx?requestfrom=webagent, accessed September 18, 2015



http://www.att.com/maps/wireless]coverage.html, accessed September 18, 2015



https://coverage.sprint.com/IMPACT.jsp?#!/, accessed September 24, 2015

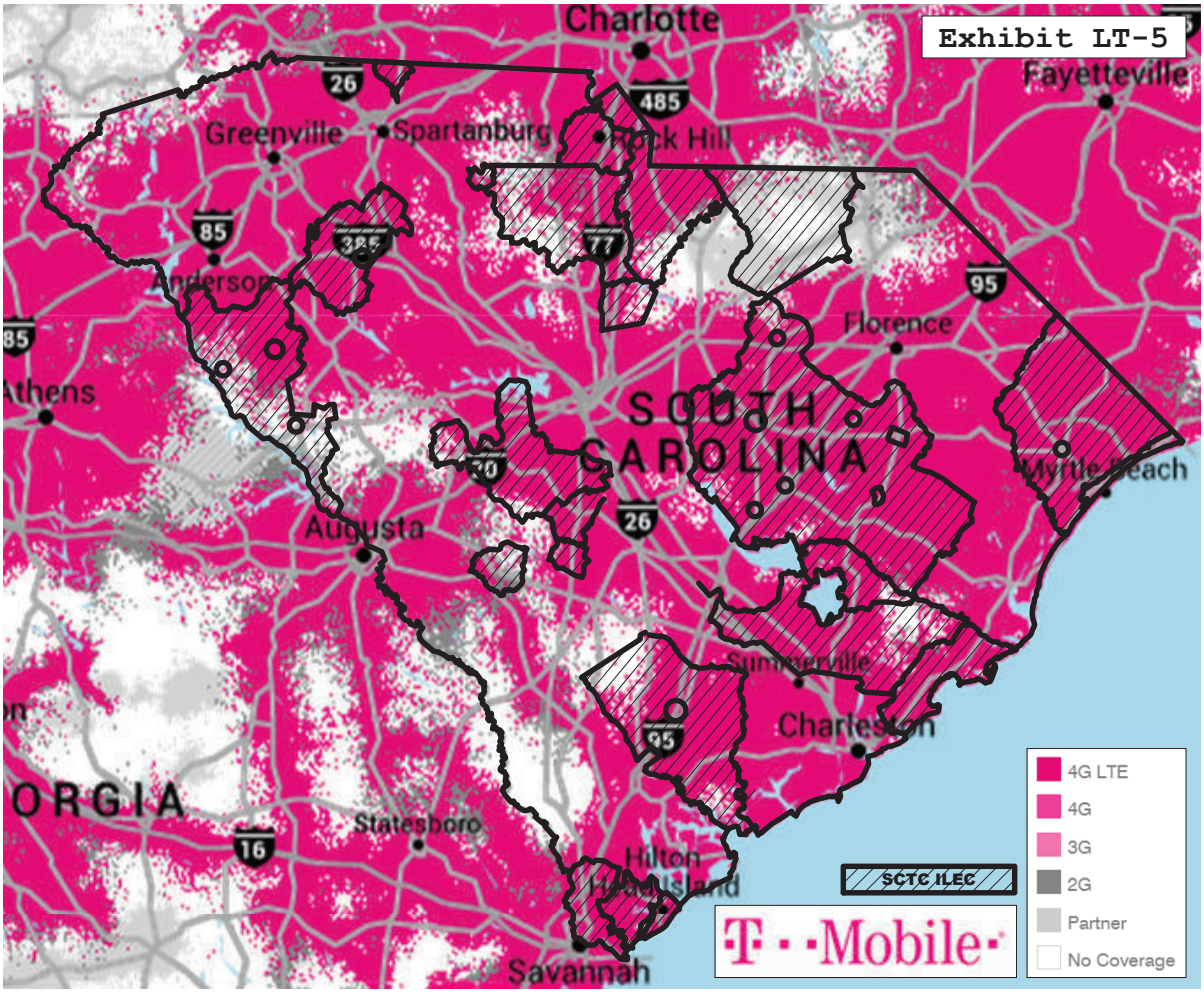


Exhibit LT-5
Charlotte
Fayetteville
Greenville
Spartanburg
Rock Hill
Anderson
Florence
Athens
SOUTH CAROLINA
Myrtle Beach
Augusta
Summerville
Charleston
ORGIA
Statesboro
Hilton Head Island
Savannah
SCTC ILEC
T-Mobile
4G LTE
4G
3G
2G
Partner
No Coverage

BEFORE

THE PUBLIC SERVICE COMMISSION

OF

SOUTH CAROLINA

DOCKET NO. 2015-290-C

TESTIMONY OF EMMANUEL STAURULAKIS

Q. Please state your name and business address.

A. My name is Emmanuel Staurulakis. My business address is 7852 Walker Drive, Suite 200, Greenbelt, Maryland 20770.

Q. By whom and in what capacity are you employed?

A. I am President of John Staurulakis, Inc. (JSI) a telecommunications consulting company providing a full range of financial, regulatory and management consulting services to independent telecommunications providers throughout the nation since 1962.

Q. Please briefly outline your education, training and experience in the telephone industry.

A. In 1980, I received a Bachelor's degree in Business Administration from the American University, Washington, D.C. In 1983, I earned a Master's degree in Accounting from the George Washington University, Washington

D.C. Since beginning my career with JSI in 1980, I have completed numerous jurisdictional cost separations studies on behalf of rate-of-return ILECs, developed and filed state and interstate access tariffs, participated in the preparation of local rate cases, responded to numerous cost study and Universal Service Fund audits conducted by the National Exchange Carrier Association (NECA) and the Universal Service Administrative Company (USAC), completed cost allocation manuals, incremental cost of service studies, facilities lease agreements and negotiated interconnection agreements on behalf of clients. I have participated in numerous national incumbent local exchange carrier and telecommunications groups, including those headed by NTCA, OPASTCO and NECA. My participation in these groups focuses on the development of policy recommendations for advancing universal service and telecommunications capabilities in rural communities and other policy matters including rate of return regulation. I have testified or filed pre-filed regulatory testimony in various states including Georgia, Maryland, Mississippi, Ohio, South Carolina and Tennessee. In addition to participation in state regulatory proceedings, I have participated in the preparation of numerous comments and Ex Parte presentations on behalf of JSI and clients with the Federal Communications Commission (FCC).

Q. On whose behalf are you testifying in this case?

A. I am testifying on behalf of the South Carolina Telephone Coalition (SCTC), a coalition of incumbent local exchange telephone companies organized and doing business under the laws of the State of South Carolina. SCTC's members are telephone companies or telephone cooperatives subject to the jurisdiction of this Commission. A list of companies on whose behalf I am testifying in this matter is attached as Exhibit A.

Q. How long have you been working with the Coalition member companies?

A. I have worked with many of the Coalition member companies for over twenty years. During that time, I have become familiar with the financial, regulatory and management operations of each company via the completion of cost studies, company specific and state industry meetings, filings with federal regulatory authorities including USAC and the FCC, contract negotiations, providing testimony before the South Carolina Public Service Commission (SCPSC or Commission) and other business related matters.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe the competitive nature of wireless voice service as it relates to the offerings of local exchange service by SCTC members. In doing so, my testimony will demonstrate the manner in which wireless telephone carriers interconnect their networks with the networks of the SCTC member companies to facilitate the exchange of local exchange traffic

and the impact that wireless competition has had on access line demand and the regulated local exchange revenues of the SCTC members. My testimony also will address the numerous blocks of telephone numbers requested by, and assigned to, the wireless carriers and the routine request for transfer or porting of wireline telephone numbers to wireless handsets experienced by the SCTC members. Finally, my testimony will address the impact that wireless competition is having on wireline service providers and the fact that many states with universal service funds require that contributions be made by wireless carriers.

Q. Please describe how, in your opinion, mobile wireless service competes with the wireline local exchange service offerings of the SCTC members.

A. For the reasons stated below, it is my opinion that mobile wireless service competes with the local exchange service offerings provided by the SCTC member companies. The reasons include: 1) the availability of wireless voice service offerings given the fact that the wireless networks of the major wireless carriers interconnect with the wireline networks of the SCTC members; 2) the large number of telephone number blocks that have been requested by, and provided to, the major wireless carriers in the areas served by the SCTC members; 3) the annual loss of access line connections and local service revenues experienced by the SCTC members; 4) the recognition by Verizon Communications and AT&T of the impact that wireless competition is having on their respective wireline operations; and 5) the fact that a number of other

states require that wireless carriers contribute to the respective state universal service funds.

Q. Please briefly describe how wireless carriers utilize the SCTC member wireline networks to originate and terminate wireless calls on behalf of their wireless subscribers.

A. Virtually all wireless networks rely upon a wireline or wired network to provide a transmission path for voice and data traffic. A call originated from a wireless customer's telephone to a wireline subscriber ultimately traverses the wireline network in order to terminate to the called party.[1] When a call is dialed by the wireless calling party, the call is routed over the wireless telephone carrier's radio spectrum to the nearest cell tower and then to the wireless carrier's switching center and on to a physical Point of Interconnection (POI) where the wireline facilities of the wireline company meet the wireless telephone company's facilities. Once the call is on the copper or fiber facilities of the wireline company, it is then routed to the home or business of the called party. Calls between wireless subscribers also utilize the wireline transmission facilities of the wireline company to carry the call to the cell tower closest to the wireless caller, even when the cell tower closest to the wireless party is outside the service area of the wireline company. The ability of a wireless

[1] *See* CTIA website at www.ctia.org/your-wireless-life, Connecting to the Wireless Network ("Wireless calls are usually transmitted over a landline network. If you're calling another wireless user, the call will eventually go back through a wireless antenna to the recipient's wireless device.") (Accessed on September 24, 2015.)

caller to have their call completed to another wireless caller anywhere is largely dependent upon the facilities of wireline networks.

Q. Have wireless telephone carriers and SCTC members negotiated agreements that define and specify the manner by which their respective wireless and wireline networks interconnect for the handling and treatment of voice traffic, including local voice traffic?

A. Yes, to the best of my knowledge, all SCTC member companies have negotiated Traffic Exchange or Interconnection Agreements (herein after referred to as ICAs) with the major wireless telephone carriers that define the types of telecommunications traffic, including local telecommunications traffic traversing the interconnected facilities, obligations of the parties with respect to interconnecting their physical facilities including the establishment of a POI, identifying and measuring the amounts of local traffic, compensation associated with the various types of traffic measured and other important matters associated with the exchange of traffic.

Q. Please describe the types of facilities typically provided for under the negotiated agreements and utilized by wireless telephone carriers to originate and terminate local telecommunications traffic.

A. To facilitate the origination and termination of wireless voice traffic between wireless and wireline networks, wireless telephone carriers typically obtain physical connections to the cell towers in the service areas of the SCTC

member companies that they own or lease. The connections typically consist of copper or fiber optic facilities. Based on available 2014 information, the major wireless telephone carriers including Verizon Wireless, AT&T Mobility, T-Mobile, Sprint and others owned or leased more than 500 wireless towers located within the collective service areas of the SCTC member companies and utilize over 1,600 circuits to interconnect their cell towers or wireless switching equipment to the SCTC member company networks. The circuits are used to carry voice traffic, both local telecommunications and toll traffic, as well as data traffic between the SCTC member company wireline and wireless telephone carrier networks.

Q. Have wireless telephone carriers requested and obtained numerous blocks of telephone numbers from the North American Numbering Plan Administration (NANPA) that are rate centered in the areas served by the SCTC member companies?

A. Yes. Based on records recently obtained from NANPA, wireless telephone carriers have collectively requested and obtained 1,300 blocks of telephone numbers that are rate centered in the areas served by the SCTC member companies. There are one-thousand telephone numbers in each block so 1,300 blocks equates to 1.3 million telephone numbers available for distribution to wireless customers requesting telephone numbers rate centered in the areas

served by the SCTC member companies.[2] According to NANPA, the SCTC member companies have been assigned 1,019 number blocks from NANPA or the equivalent of 1,019,000 million telephone numbers or some 281,000 fewer numbers than the wireless carriers. The sheer amount of telephone numbers made available to wireless telephone carriers, and the fact that they exceed the amount of numbers assigned to the SCTC member companies, demonstrates the very competitive nature of wireless voice service.

Q. Does NANPA data suggest that wireless telephone carriers are providing competitive service in South Carolina?

A. Yes. Wireless telephone carriers have been assigned more than ten (10) times the amount of telephone numbers in the rate centers of the SCTC member companies compared to wireline CLECs, and 280,000 more telephone numbers than the SCTC members. While some of the difference would be considered overlap as a result of people who have both landline and wireless service, that does not explain the large volume of numbers available to wireless telephone carriers. When this information is viewed with other available information, such as the National Health Institute Survey (NHIS) of Wireless Substitution and FCC reports on wireless competition as detailed in Mr. Meredith's testimony, it is clear that wireless telephone carriers are providing service in

[2] *See* NANPA, iconectiv's Business Integrated Routing and Rating Database System (BIRRDS), September 2015.

South Carolina that competes with local voice service provided by traditional landline telephone companies like the SCTC member companies.

Q. What is the significance to wireless telephone carriers of having their telephone numbers rate centered in the areas served by the SCTC member companies?

A. Telephone numbers obtained by wireless telephone carriers are typically associated with the same rate centers as the telephone numbers utilized by the SCTC member-companies so that wireline customers calling a wireless telephone number in the same rate center are billed as local calls. For example, a mother who is at home and uses her wireline telephone to call her child's mobile phone with a number that has the same rate center to arrange a pick-up time from school will not pay usage-based or toll charges for the call. In promoting their wireless products and services, the wireless telephone carriers understand the importance of obtaining numbers associated with rate centers that have geographic similarities to the local calling areas of wireline companies including the SCTC members.

Q. **Has wireless local telephone service competition negatively impacted the number of access line connections and basic local service revenues of the SCTC member companies?**

A. Yes. For most wireline telecommunications providers, including the SCTC member companies, the increased local competition stemming from customers

migrating to wireless service has contributed to the annual decrease to both physical access line connections and basic local service revenues. Between 2010 and 2014, access lines and basic local service revenues for the SCTC member company group declined by 18.1% and 20.9%, respectively. The decline to both access lines and basic local service revenues for all South Caroline wireline providers, including the SCTC members is expected to continue in 2015.

Q. Has wireless competition caused customers of the SCTC member companies to transfer or port their wireline telephone numbers to their wireless handsets?

A. Yes, the SCTC member companies typically receive a number of porting requests from competing wireless telephone carriers and made by SCTC member subscribers looking to utilize their wireless handsets as their primary handset. Based on calendar year 2014 information obtained by JSI, nine (9) SCTC member companies experienced more than 275 "port-outs" of customer wireline telephone numbers to wireless handsets. A customer who ports-out their wireline telephone number to their wireless device soon after disconnects their wireline voice telephone service with the SCTC member company. The number of annual wireline telephone number port-outs is only part of the competitive impact associated with wireless voice service and doesn't account for customers of the SCTC member companies owning both a wireline and wireless handset as well as those households that disconnected wireline service

outright and then utilized only a wireless handset or households never subscribing to wireline service in the first place.

Q. Do Verizon and AT&T recognize the negative impact that wireless telephone service competition is having on their wireline operations?

A. Yes, in its most recent Form 10-K filed with the Securities and Exchange Commission, Verizon cites the negative impact that wireless competition is having on its traditional access line counts and wireline revenues.[3] "We expect customer migration from traditional voice services to wireless services to continue as a growing number of customers place greater value on mobility and wireless companies position their service as a landline alternative."[4] "The increase in Mass Markets revenues was partially offset by the decline of local exchange revenues primarily due to a 5.5% decline in Consumer retail voice connections resulting primarily from competition and technology substitution with wireless, competing VoIP, and cable telephony services."[5]

Similarly, AT&T recognizes the negative effects of competition, including wireless service competition, on its traditional wireline connections and revenues. On page 4 of its 2014 10-K, AT&T states " Revenues from our traditional voice services have been declining as customers have been switching to wireless or VoIP services provided by either us, cable or other

[3] *See* Verizon Communications Inc., United States Securities And Exchange Commission Form 2014 10-K, February 2015.
[4] *Id*. at p. 12.

Internet-based providers."[6] On page 12, AT&T states "Wireline revenues decreased $916 [million], or 2.6%, in 2014 and $1,057[,000,000], or 2.9%, in 2013. The decline in revenues reflects migrations to alternative technologies, increasing price competition and sustained economic pressure." Total switched access lines at AT&T decreased 19.2% in 2014 and 15.8% in 2013.[7]

The decrease in wireline voice connections and revenues in 2014 experienced by both Verizon and AT&T appear to be consistent with the decrease in access line connections and regulated local revenues experienced by the SCTC member companies over the same period.

Q. Are you aware of any state high-cost funding mechanisms that wireless carriers are required to contribute?

A. Yes. According to a report published by NRRI in 2015, twenty-seven (27) states assessed the revenues of wireless carriers for contributions to various state universal service funds, eighteen (18) of which had high-cost or intrastate access support universal service funds or both.[8]

[5] *Id*. at p. 180.
[6] *See* AT&T, United States Securities And Exchange Commission Form 2014 10-K, February 2015.
[7] *Id*. at p. 10.
[8] *See* NRRI, State Universal Service Funds 2014, Report No. 15-05, June 2015, at pp. 13, 33.

Q. What would you recommend the Commission do in this matter?

A. Based on the information provided in my testimony, I would respectfully request that the Commission find that wireless service competes with local exchange service in South Carolina.

Q. Does this conclude your testimony?

A. Yes.

EXHIBIT A

South Carolina Telephone Coalition Member Companies

Bluffton Telephone Company, Inc.

Chesnee Telephone Company

Chester Telephone Company, d/b/a TruVista

Comporium, Inc. (f/k/a Rock Hill Telephone Company)

Farmers Telephone Cooperative, Inc.

Ft. Mill Telephone Company, d/b/a Comporium

Hargray Telephone Company, Inc.

Home Telephone ILEC, LLC d/b/a Home Telecom

Horry Telephone Cooperative, Inc.

Lancaster Telephone Company, d/b/a Comporium

Lockhart Telephone Company, d/b/a TruVista

McClellanville Telephone Company (TDS)

Norway Telephone Company (TDS)

Palmetto Rural Telephone Cooperative, Inc.

Piedmont Rural Telephone Cooperative, Inc.

PBT Telecom, d/b/a Comporium

Ridgeway Telephone Company, d/b/a TruVista

Sandhill Telephone Cooperative, Inc.

St. Stephen Telephone Company (TDS)

West Carolina Rural Telephone Cooperative, Inc.

Williston Telephone Company (TDS)

BEFORE THE

PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2015-290-C

DIRECT TESTIMONY OF DOUGLAS DUNCAN MEREDITH

Q: Please state your full name, place of employment and position.

A: My full name is Douglas Duncan Meredith. I am employed by John Staurulakis, Inc. ("JSI") as Director – Economics and Policy. JSI is a telecommunications consulting firm headquartered in Greenbelt, Maryland. My office is located at 547 Oakview Lane, Bountiful, Utah 84010. JSI is a full-service consulting firm, providing operational, financial, management, regulatory, marketing and strategic assistance to independent community-based communications providers. JSI has provided telecommunications consulting services to communications providers since 1963.

Q: Please describe your professional experience and educational background.

A: As the Director of Economics and Policy at JSI, I assist clients with the development of policy pertaining to economics, pricing and regulatory affairs. I have been employed by JSI since 1995. Prior to my work at JSI, I was an independent research economist in the District of Columbia and a graduate student at the University of Maryland – College Park.

In my employment at JSI, I have participated in numerous proceedings for rural and non-rural telephone companies. These activities include, but are not limited to, the creation of

forward-looking economic cost studies, the development of policy related to the application of the rural safeguards for qualified local exchange carriers, the determination of Eligible Telecommunications Carriers, the sustainability and application of universal service policy for telecommunications carriers, as well as supporting incumbent local exchange carriers in arbitration proceedings and rural exemption and suspension and/or modification proceedings.

In addition to assisting telecommunications carrier clients, I have served as the economic advisor for the Telecommunications Regulatory Board of Puerto Rico since 1997. In this capacity, I provide economic and policy advice to the Board Commissioners on all telecommunications issues that have either a financial or economic impact on carriers or end-users. I have participated in a number of arbitration panels established by the Board to arbitrate interconnection issues under Section 252 of the Telecommunications Act of 1996.

I am participating or have participated in numerous national incumbent local exchange carrier and telecommunications groups, including those headed by NTCA–The Rural Broadband Association (including OPASTCO), USTelecom, and the Rural Policy Research Institute. My participation in these groups focuses on the development of policy recommendations for advancing telecommunications capabilities in rural communities, universal service, and other policy matters.

I have a Bachelor of Arts degree in economics from the University of Utah, and a Master's degree in Economics from the University of Maryland – College Park. While attending the University of Maryland – College Park, I was also a Ph.D. candidate in Economics, having completed all coursework, comprehensive and field examinations for a Doctorate of Economics.

Q: Have you testified previously in federal and state regulatory proceedings on telecommunications issues?

A: Yes. I have testified live or in pre-filed regulatory testimony in various states including South Carolina, Arizona, Colorado, Indiana, Maine, Michigan, Montana, North Dakota, New Hampshire, New York, Tennessee, Utah, Vermont, and Wisconsin. I have also participated in regulatory proceedings in many other states that did not require formal testimony, including Florida, Louisiana, Mississippi, South Dakota, Puerto Rico and Virginia. In addition to participation in state regulatory proceedings, I have participated in federal regulatory proceedings through filing of formal comments in various proceedings and submission of economic reports in an enforcement proceeding.

Q: What was the subject of the proceedings in which you have testified?

A: The proceedings in which I have provided testimony involve matters related to incremental costs, interconnection agreements, universal service, state universal service charges, National Exchange Carrier Association ("NECA") tariffs, competitive Eligible Telecommunications Carrier ("ETC") designation, rural exemption challenges, designation of local traffic, infrastructure reliability, and competitive market analysis.

Q: On whose behalf are you testifying in this proceeding?

A: I am testifying on behalf of the South Carolina Telephone Coalition and its individual member companies (collectively referred to as "SCTC").

Q: What is the purpose of your testimony?

A. The purpose of my testimony is to address several issues that will assist the Public Service Commission of South Carolina ("Commission") in determining whether wireless carriers operating in South Carolina are providing non-wireline services in competition with landline services, and whether they are providing radio-based local exchange services that compete with local telecommunications services provided in the State. The consequence of making this determination would be that all wireless carriers, regardless of their designation as an ETC, will be obligated to contribute to the state universal service fund ("SC USF"), as required by law.

Specifically, I address whether radio-based telephone (wireless telephone) services compete with local telecommunications service in South Carolina, and how the Commission should determine the standards in its review. I then provide testimony supporting the determination that wireless services are competing with SCTC member companies for consumers of local telecommunications service and to what extent these two types of services are functionally equivalent substitute services.

Q: Please describe the applicable section of the South Carolina Code that guided your inquiry.

A: There are two sections that I looked to for guidance. S.C. Code Ann. §58-9-280(E)(2) and (3) state:

> (2) The commission shall require all telecommunications companies providing telecommunications services within South Carolina to contribute to the USF as determined by the commission.
>
> (3) The commission also shall require a company providing telecommunications service to contribute to the USF if, after notice and opportunity for hearing, the commission determines that the company is providing private local exchange services or radio-based local exchange services in the State that compete with a local telecommunications service provided in this State.

"Telecommunications Service" is defined in the S.C. Code as "services for the transmission of voice and data communications to the public for hire, including non-wireline services provided in competition to landline services." S.C. Code Ann. § 58-9-10(15).

Q: Based on these terms and their use in these two paragraphs, are you addressing Commercial Mobile Radio Service ("CMRS") or what is generally called cellular, mobile, or wireless telephone service?

A: Yes. The term wireless telephone service is commonly used to describe the provision of radio-based local exchange services. A wireless service provider offers service to the public and its customers are able to initiate and receive communications through the service—this is telecommunications service.

Q: Do all SCTC members provide local telecommunications service to the public?

A: Yes.

Q: Paragraphs two (2) and three (3) of S.C. Code Ann. §58-9-280(E) require that the wireless providers "compete" with SCTC members, or with other local telecommunications providers, before the Commission can make a determination that wireless providers should contribute to the SC USF. Are there other sections of the code that address what competition is and where it exists?

A: Yes. Section 58-9-280(G)(1) provides the following guidance:

> "Competition exists for a particular service if, for an identifiable class or group of customers in an exchange, group of exchanges, or other clearly defined geographical area, the service, its functional equivalent, or a substitute service is available from two or more providers."

Based on this guidance, it appears that the evaluation of competition requires a clearly defined geographical area.

Q: Is the state of South Carolina a clearly defined geographic area that you recommend the Commission use to determine competition with wireless providers?

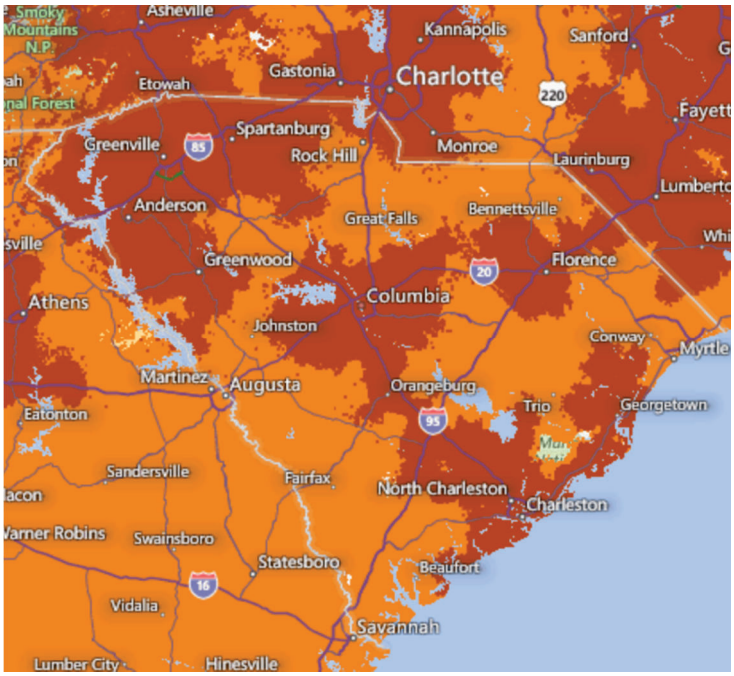
A: Yes. The wireless providers offer services and compete with local exchange service providers within the state of South Carolina. Additionally, Section 58-9-280(E)(3) requires that the Commission make a determination of whether wireless service being provided "in this State" competes with local telecommunications service provided "in this State." Thus, the relevant "clearly defined geographic area" for purposes of the Commission's determination in this proceeding is the State of South Carolina. Based on my plain English reading of the section, the Commission need not determine whether services are being provided *throughout* the State, but "in" the State.

Q: What information do you have about the competitive appearance of wireless service in South Carolina?

A: I looked at the four large national wireless providers: AT&T, Verizon, T-Mobile, and Sprint.

The AT&T coverage map created by AT&T shows HD voice availability in red and voice in orange. (HD voice is a service that uses a 4G-LTE network[1]) Map 1 shows the coverage of AT&T's HD Voice and voice service in South Carolina (http://www.att.com/maps/wireless-coverage.html, last visited September 6, 2015).

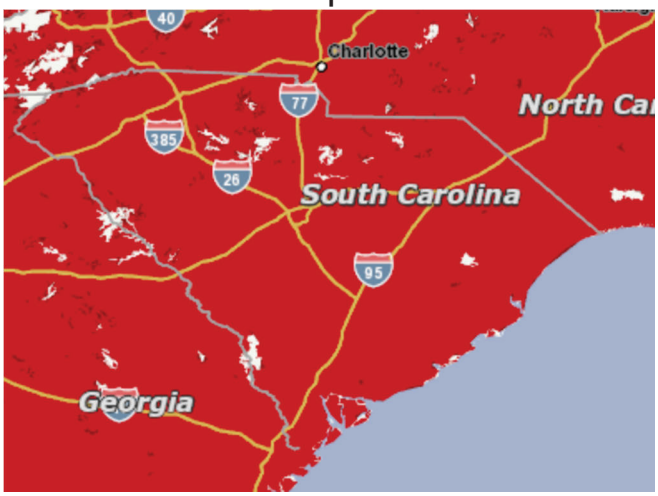
Map 1



[1] HD Voice technology delivers high-quality voice calls across the AT&T 4G LTE network. (http://www.att.com/shop/wireless/features/hd-voice.html)

Map 2 shows Verizon's coverage in South Carolina. (https://vzwmap.verizonwireless.com/dotcom/coveragelocator/default.aspx?requestfrom=webagent, last visited September 6, 2015).

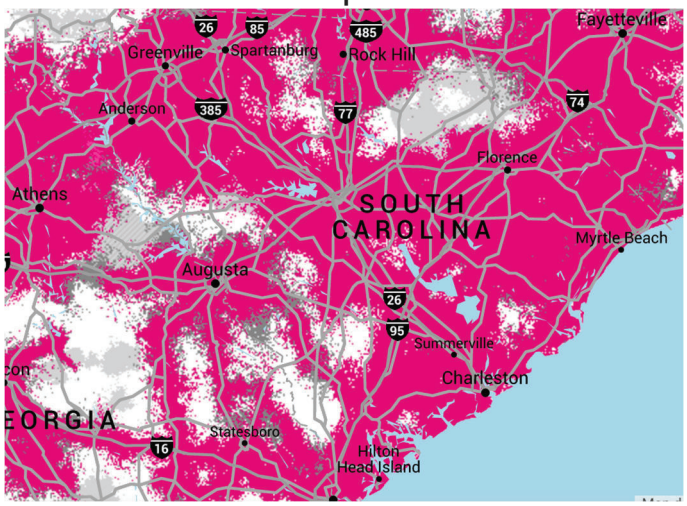
Map 2



Both AT&T and Version show wireless coverage generally available in South Carolina.

Map 3 shows the coverage of T-Mobile in South Carolina. (http://www.t-mobile.com/coverage.html, last visited September 6, 2015). The dark pink color is for 4G-LTE coverage which provides the highest level of voice quality. Not achieving 4G-LTE does not imply that voice service is not available at a lower service level—T-Mobile identifies no coverage at all with white. As illustrated in Map 3, T-Mobile has some gaps (white areas) in the state but the coverage is quite widespread.

Map 3



And lastly, for Sprint, coverage is shown in Map 4 (http://coverage.sprint.com/IMPACT.jsp?INTNAV=LeftNav:Search:PopLinks3#!/, last visited September 6, 2015).

Map 4

Sprint's coverage is widespread for South Carolina. The only area where there is not voice coverage is illustrated on the map as white in color (This map shows voice coverage and does not reflect 4G-LTE service areas).

Q: Do these maps indicate that the major wireless telephone service providers operating in South Carolina provide service throughout the state?

A: No. The maps indicate that these carriers advertise coverage and offer competitive voice service in most areas of the State. The maps do not indicate that wireless service is available to every single location in the State. There may be any number of specific locations that have no service or that experience poor coverage (static, dropped calls, etc.). In addition, there are many cases where coverage is marginal inside structures -- wireless reception might be possible outside the structure but is too weak to penetrate walls and thus is not available inside the structure.

Q: What services do the wireless providers offer on their networks in the state?

A: At a minimum, wireless providers offer voice and data telecommunications services.

Q: Is wireless service a substitute for wireline service in South Carolina?

A: Yes.

Q: What did you examine to come to the conclusion that wireless service is a substitute for wireline service and that wireless and wireline providers compete for customers?

A: The best way to show competition is to examine data related to the substitutability of wireless service for wireline voice service.

Q: How is substitution defined and determined in an economic context?

A: There is considerable economic literature on defining and determining the degree of substitution between two services. Informally we all grasp the concept between substitutes among two goods of services. For example, if I am indifferent between using a red colored pencil and a blue colored pencil, then the two pencils are called perfect substitutes. However, the subject becomes more nuanced if I were to compare a pencil with a pen. There is a degree of substitutability between a pencil and a pen but the substitutability isn't "perfect" since there are clearly distinguishable features a pen has versus a pencil, and vice versa.

To examine the degree of substitutability between two services, wireline (w1) and wireless (w2), we would consider the demand for wireless service as a function of its price, income available to the consumer, and the price of the wireline service. Thus, the demand for wireless service (D_{w2}) is a function of three variables: the price of wireless service (p2), the price of the wireline service (p1) and income (m). The expression describing this function would be $D_{w2} = W2(p1, p2, m)$. If the demand for wireless service goes up when the price for wireline goes up, then wireless service is a gross substitute for wireline service. This can be expressed as the change in demand for wireless service increases when the

price for wireline service increases, or $\Delta_{w2}/\Delta_{p1} > 0$. This expression is called a cross price elasticity of demand.

Q: Does this definition help with the general concept expressed in the statute?

A: A formal discussion provides guidance in discussing services that are substitutes. Relatively recent economic research attempts to empirically quantify the trend of substituting wireless service for wireline service. In a 2011 paper in the journal Telecommunications Policy,[2] Dr. Kevin Caves estimates the cross price elasticity between wireless and wireline services and finds its value is positive and economically significant. This recent research confirms the common observation noted in the industry that wireless service is a substitute for wireline service.

Moreover, when looking at the concept conveyed in the statute:

> "Competition exists for a particular service if, for an identifiable class or group of customers in an exchange, group of exchanges, or other clearly defined geographical area, the service, its functional equivalent, or a substitute service is available from two or more providers."

If a consumer is indifferent between picking up a wireline handset or a mobile handset to initiate a local telephone call, the services are substitutes in the same sense that a pencil and pen both write. The degree of substitutability measured econometrically isn't really a question that is raised by the statute. In addressing the degree of substitutability, there are many distinct defining characteristics for wireline service, such as reliability, privacy, and affordability; and there are distinct defining characteristics for wireless service, such as mobility. Yet, while these distinctions are important, they don't reach the basic concept of

[2] Caves, Kevin W., *Quantifying Price-Driven Wireless Substitution in Telephony*, Telecommunications Policy (2011).

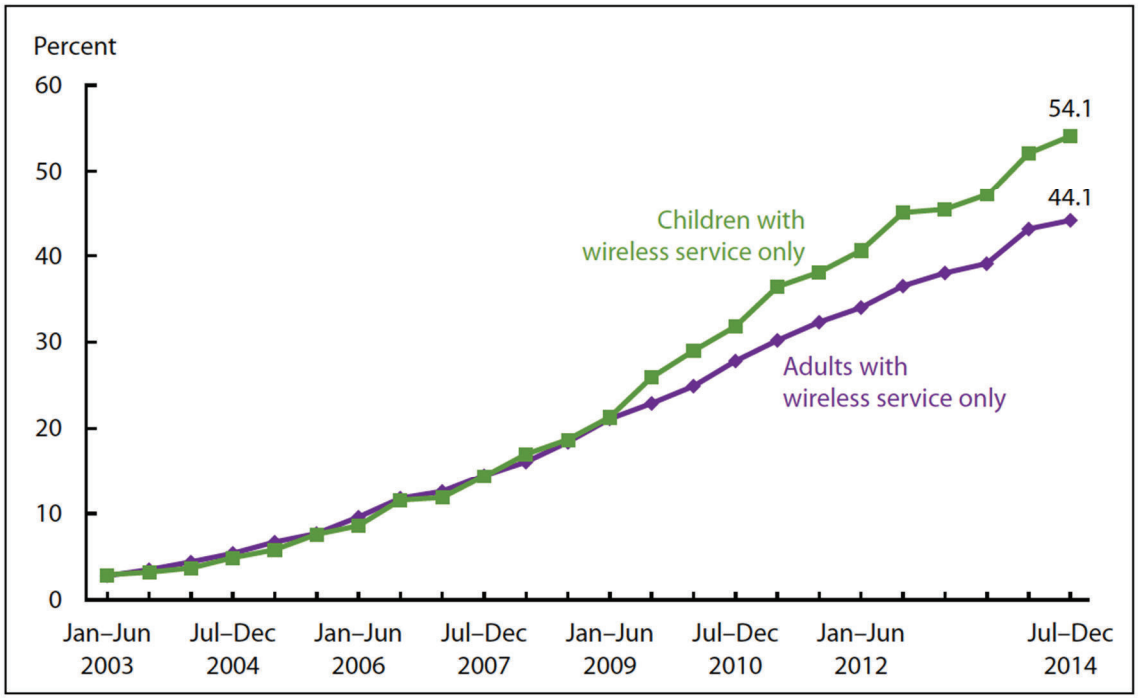
subscribing to a telecommunications service offering a mobile wireless handset instead of a wireline handset.

Q: In your analysis of this issue, what other data have you found addressing the question: do consumers use wireless service as a substitute for wireline telephone service?

A: The best survey data on wireless substitution comes from the Centers for Disease Control and Prevention's ("CDC") National Center for Health Statistics ("NCHS"). Twice each year the CDC publishes estimates of telephone coverage for the civilian population in the United States based on its National Health Interview Survey ("NHIS"). Beginning in 2003, the NHIS began asking whether a family has a wireline (landline) telephone. Graph 1 provides the national data compiled by the NHIS that was released in June 2015.

Graph 1

Percentages of adults and children living in households with only wireless telephone service: United States, 2003–2014



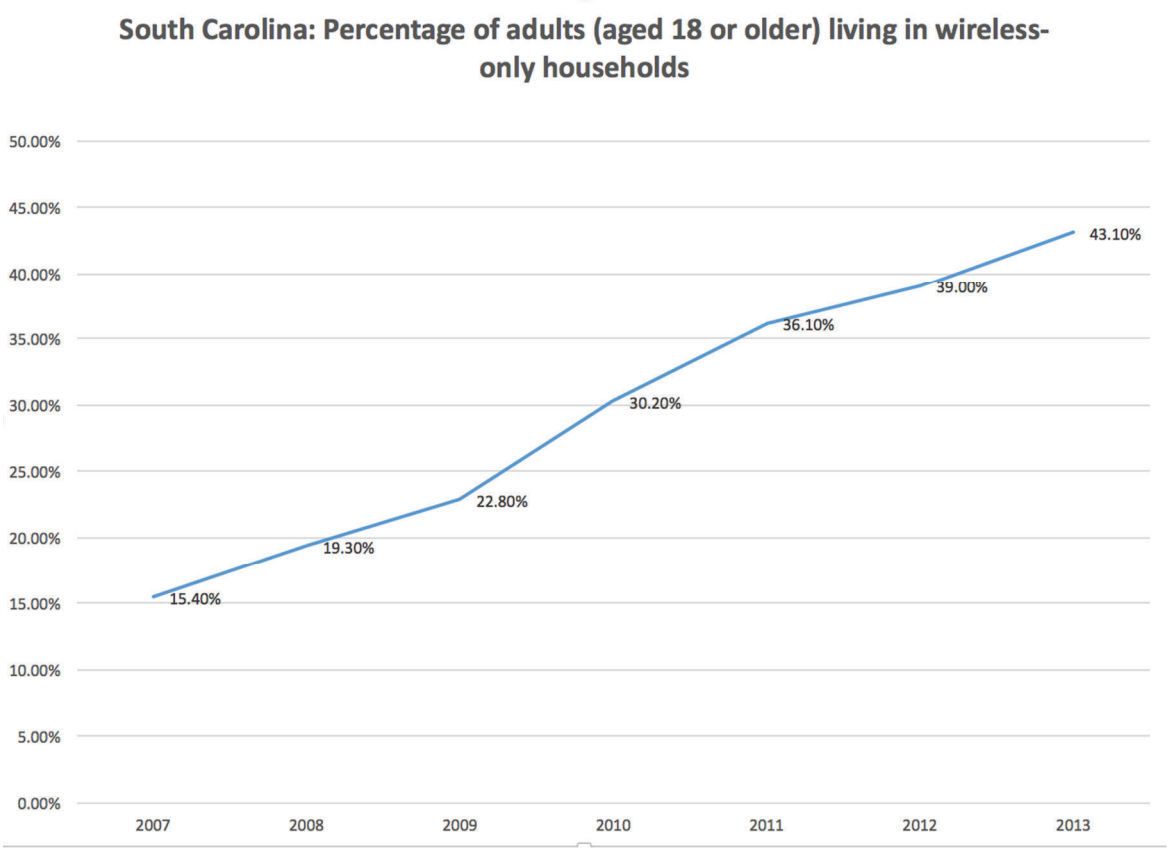
NOTE: Adults are aged 18 and over; children are under age 18.
DATA SOURCE: CDC/NCHS, National Health Interview Survey.

Graph 1 illustrates the adoption of wireless phone service as the only means of initiating or receiving telephone calls in the household. While 44.1 percent of adult respondents in 2014 state they only have wireless service, this means that 55.9 percent of adults households have only wireline service, or have a combination of wireline and wireless services (dual usage), or no telephone service at all.

Q: Does the CDC survey have data specific to South Carolina?

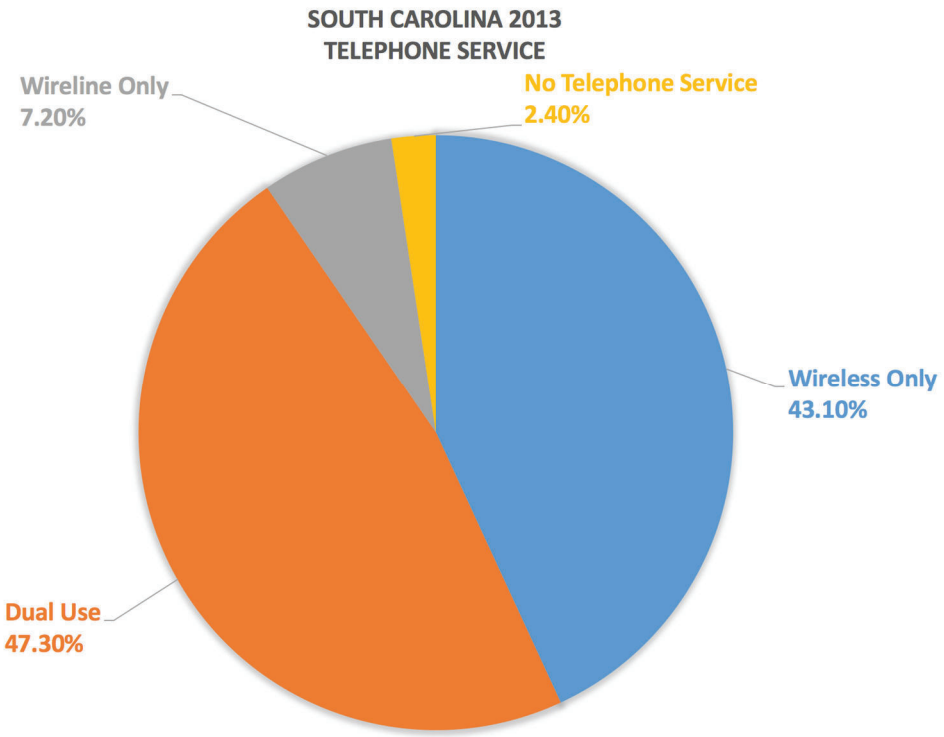
A: Yes. The CDC has data from 2007-2013 for each state. Graph 2 shows the trend of wireless only households for South Carolina.

Graph 2



Moreover, the CDC data for 2013 identifies the type of phone service for South Carolina. Graph 3 shows the distribution of the types of local telecommunications service.

Graph 3



Graphs 2 and 3 show that wireless-only usage has increased to over 43 percent in 2013 from 15.4 percent in 2007. Furthermore, while wireless-only service is 43.1 percent in 2013, the predominant usage category is dual use—where the household has a wireline and a wireless phone which is 47.3 percent. Only 7.2 percent of households in South Carolina are wireline only—making the total percentage of households using wireline services 54.4 percent. Only two percent of the households in South Carolina have no telephone service.

Q: Does any data collected by the FCC corroborate the CDC survey results?

A: Yes. The FCC gathers data on competition and reports these data in its annual Local Competition Report. The most recent report was released October 2014. The FCC gathers these data from its Form 477 "to collect subscribership information from providers of local telephone service—the incumbent local exchange carriers ("ILECs"), competitive local exchange carriers ("CLECs"), and mobile telephony providers." (FCC: Local Competition Report, October 2014, page 1)

The FCC data show that wireless subscribers are increasing. Table 1 shows what the FCC observes as three major competitive (substitutable) methods of obtaining telephone service. The FCC describes "Local Telephone Service Connection" as a connection where local telephone service is received through one of three different technologies or methods.[3] Wireline access lines, Voice over Internet Protocol ("VoIP") and mobile/wireless subscriptions are reported from 2010-2013. Based on these data the prevalence of wireless service for telephone subscription use is large and growing. Traditional telephone service has declined to 85,280,000 connections from 117,884,000 connections in three years (a loss of more than 32 million subscribers). The increases in VoIP and mobile service increased by 16 million and 25.5 million respectively. These data suggest that the trend is that switched wireline is being phased-down while VoIP and wireless are increasing and the VoIP increase is not accounting for the entire switched wireline decline and therefore wireless service accounts for a significant portion of the local telephone market.

[3] The FCC describes the state of competition as follows: "Retail local telephone service customers are served by two wireline technologies – 'end-user' switched access lines and interconnected VoIP 'subscriptions' – and by mobile wireless subscriptions." Local Telephone Competition, FCC, October 2014, at p. 1.

Table 1
Retail Local Telephone Subscription Connection 2010-2013
(In Thousands)

Subscription Type	Dec-10	Dec-11	Dec-12	Dec-13	Change 2010-2013
Mobile Telephony Subscriptions	285,118	297,404	304,838	310,698	25,580
Interconnected VoIP Subscriptions	31,768	36,670	42,457	47,953	16,185
Retail Switched Wireline Access Lines	117,884	106,649	96,139	85,280	(32,604)
Total Retail Subscriptions	434,770	440,723	443,434	443,931	9,161

Source: FCC: Local Competition Report 2014

Q: What do you conclude from your review of the FCC data?

A: It is clear that the FCC, the federal expert regulatory authority on telecommunications, views as competitive the various types of providers of local telephone service—Traditional wireline access service, VoIP, and mobile/wireless service. Wireline and wireless providers compete directly for telephone subscribers and wireless service is a substitute for wireline service.

Q: Do the wireless providers view their voice service as offering a substitute for wireline service?

A: I looked at the Form 10-K Reports for Verizon and AT&T, on file with the Securities and Exchange Commission. In these reports, filers need to explain their operations and identify any perceived risks or hazards that would affect their operations and ultimately their financial reports.

Verizon's Form 10-K report for 2014, page 12, states: "We expect customer migration from traditional voice services to wireless services to continue as a growing number of customers place greater value on mobility and wireless companies position their service as a landline alternative." And Verizon is positioning itself to "continue to attract and maintain the loyalty of high-quality retail postpaid customers" by offering to market new 4G LTE devices, "including smartphones and tablets." Verizon is looking to offer "innovative wireless devices" to expand future growth opportunities. These plans include offering "unlimited voice minutes" for customers to initiate telephone calls. (Page 163)

The report from AT&T's February 2015 10-K shows that AT&T also views wireless substitution and strong competition between wireline and wireless local telecommunications services. Below are some relevant statements made this year by AT&T:

"Revenues from our traditional voice services have been declining as customers have been switching to wireless or VoIP services provided by either us, cable or other Internet-based providers." (Page 4)

"Our wireline subsidiaries will face continued competitive pressure in 2015 from multiple providers, including wireless, cable and other VoIP providers, interexchange carriers and resellers. In addition, the desire for high-speed data on demand, including video, and lingering economic pressures are continuing to lead customers to terminate their traditional

local wireline service and use our or competitors' wireless and Internet-based services." (Page 17)

"We continue to lose access lines due to competitors (e.g., wireless, cable and VoIP providers) who can provide comparable services …." (Page 18)

The Verizon and AT&T statements in their financial reports clearly indicate that the largest RBOCs and largest wireless providers in the nation view wireline and wireless services as substitutes and that providers offering these services are direct competitors of wireline service in their markets.

Q: What would you recommend the Commission do in this matter?

A: I recommend that the Commission determine that wireless services compete with SCTC members for consumers of local telecommunications services and that wireless service is a substitute for wireline local telecommunications service.

Q: Does this conclude your Direct Testimony?

A: Yes.

BEFORE THE

PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2015-290-C

DIRECT TESTIMONY OF H. KEITH OLIVER

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is H. Keith Oliver. My business address is 579 Stoney Landing Road, Moncks Corner, South Carolina 29461.

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am employed by Home Telephone ILEC, LLC d/b/a Home Telecom ("Home Telephone") as the Company's Senior Vice President of Corporate Operations.

Q. PLEASE BRIEFLY OUTLINE YOUR EDUCATION, TRAINING, AND EXPERIENCE IN THE TELECOMMUNICATIONS INDUSTRY.

A. I received a Bachelor of Science degree in Business Administration from the College of Charleston in May 1977. I was licensed as a Certified Public Accountant in May of 1979. I continued work in public accounting until October of 1984, when I was hired in the finance area at Home Telephone Company. In December of 1999 I was named Vice President of Finance, and in November 2004 I was promoted to Senior Vice President of Corporate Operations. In this position, I am responsible for the development and execution of all regulatory and legislative policy matters as well as all financial matters, including various corporate support functions. I have previously served on several South Carolina Telephone Association, now known as the South Carolina Telecommunications and Broadband Association ("SCTBA") committees, including having served as Chairman of

the SCTBA Accounting Committee and Interconnect Committee.

I have been associated with all three of the major national trade associations serving the local exchange carrier industry -- USTA, OPASTCO, and NTCA—The Rural Broadband Association ("NTCA"). I have also served as co-chairman of the Rural Broadband Alliance, a group of approximately 200 small rural carriers working to ensure broadband is available in rural America. I am currently serving on the twelve member board of NTCA. I have appeared before this Commission many times in the past to present testimony on behalf of Home Telephone, the SCTBA, and the South Carolina Telephone Coalition ("SCTC").

Q. ON WHOSE BEHALF ARE YOU TESTIFYING TODAY BEFORE THIS COMMISSION?

A. I am presenting testimony today on behalf of Home Telephone and the SCTC, whose member companies are listed in Exhibit A to my testimony. Each member of the SCTC is a rural telephone company, as that term is defined in the federal Telecommunications Act of 1996. We serve predominantly rural areas of the State.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY BEFORE THE COMMISSION?

A. The purpose of my testimony today is to provide information to the Commission to assist in making a determination of whether wireless voice services are competitive with landline voice services.

Q. WHY IS THIS ISSUE IMPORTANT TO THE SCTC?

A. The telecom industry is going through a period of transformation. South Carolina's small telecom carriers continue to be subjected to state regulations and carrier of last resort

("COLR") obligations. As we transition through this process, it is critical that our state regulations keep pace with a rapidly changing telecommunications environment. One key provision of state law that this Commission has not yet addressed is the inclusion of wireless carriers in making contributions to the South Carolina Universal Service Fund ("State USF"). The South Carolina Legislature included language in the 1996 State Telecom Act stating that wireless carriers would be required to contribute to State USF upon a determination by the Commission that wireless voice service competes with landline voice service.

Q. DOES WIRELESS VOICE SERVICE COMPETE WITH LANDLINE SERVICES?

A. Yes, it does. When the legislation was first enacted in 1996, that may not have been the case. Today, however, there is no doubt that wireless voice service competes with local telecommunications service being provided in this State.

Q. IS THE SCTC ASKING THE COMMISSION TO MAKE ANY OTHER DETERMINATIONS IN THIS PROCEEDING?

A. No. We are simply asking the Commission to find that retail wireless service providers operating in South Carolina are providing services that compete with local landline telecommunications services in this State.

Q. WHAT IMPACT WOULD A COMMISSION'S FINDING THAT WIRELESS VOICE SERVICE IS COMPETITIVE TO LANDLINE VOICE SERVICE HAVE ON WIRELESS VOICE SERVICE PROVIDERS?

A. The only impact on wireless service providers would be the requirement to participate in funding State USF, as other competitive carriers are required to do. It is important that all telecommunications carriers contribute to the State USF to ensure the continued

availability of the underlying network upon which all telecommunications service providers (including wireless telephone service providers) rely to complete calls.

Q. DOES STATE LAW REQUIRE WIRELESS PROVIDERS TO CONTRIBUTE TO STATE USF UPON A FINDING OF COMPETITION?

A. Yes. State law requires that all providers of telecommunications service contribute to State USF. S.C. Code Ann. § 58-9-280(E)(2). Telecommunications services are defined as "the services for the transmission of voice and data communications to the public for hire, including those non-wireline services provided in competition to landline services." S.C. Code Ann. § 58-9-10(15). Additionally, S.C. Code Ann. § 58-9-280(E)(3) provides:

> The commission shall also require any company providing telecommunications service to contribute to the USF if, after notice and opportunity for hearing, the commission determines that the company is providing private local exchange services or radio-based local exchange services in this State that compete with a local telecommunications service provided in this State.

Q. WHAT IS THE STATE USF?

A. The State USF is an explicit funding mechanism that the South Carolina General Assembly directed the Commission to establish in order to ensure universal service. Specifically, Section 58-9-280(E) of the 1996 South Carolina Telecommunications Act provides in part: "In continuing South Carolina's commitment to universally available basic local exchange telephone service at affordable rates and to assist with the alignment of prices and/or cost recovery with costs, and consistent with applicable federal policies, the commission shall establish a universal service fund (USF) for distribution to a carrier(s) of last resort."

Q. WHAT IS "UNIVERSAL SERVICE"?

A. Universal service is the concept that everyone, regardless of where they live, should have access to basic local telephone service at affordable rates, and that rates and services should

be comparable in rural and urban areas. Thus, there are two parts to universal service. First, the network must be built out and maintained, even in high-cost areas. Second, even where costs are high, subscribers should not be charged rates higher than those charged to subscribers in urban or lower-cost areas.

Q. HAVE WE ACHIEVED UNIVERSAL SERVICE?

A. It is important to understand that universal service is not something you achieve and forget. Just as you cannot build a good highway system and forget about it, you must continually maintain and upgrade communications infrastructure. The capital cost associated with deploying a network is typically recovered over a long period of time. In addition, there are higher ongoing operating costs in remote rural areas, and the network must be continually upgraded and maintained. Thus, if funding were eliminated, universal service would soon fail. The result would be the degradation over time of the critical communication infrastructure that has not only allowed South Carolina citizens to enjoy high-quality, reliable communications service, but has also allowed the State to attract and retain industry and jobs to the State. State USF has allowed Home Telephone, for example, to attract a large Google data center in 2008, with a $600 million expansion announced in 2013. In May 2015, Volvo announced that it had selected a location in Berkeley County (within Home Telephone's service area) to invest $500 million to build a new plant that would initially produce up to 100,000 cars per year, bringing 2,000 jobs to the area. Other SCTC member companies have seen similar economic development in the rural areas in which they operate that would not be possible without robust communications networks in these rural areas of the State.

Q. HOW HAS UNIVERSAL SERVICE BEEN ACHIEVED AND HOW IS IT BEING MAINTAINED?

A. The basic concept of ensuring universal service is that there must be a carrier willing to serve in high cost areas, and that carrier must be able to recover its costs of doing so in some manner. In South Carolina, we have COLRs who undertake the obligation "to provide basic local exchange telephone service, upon reasonable request, to all residential and single-line business customers within a defined service area." Without getting into the complex history of universal service funding, COLRs historically have recovered their costs through mechanisms like rate structure (charging higher rates to certain classes of customer, such as business customers) and access charges (rates charged to other carriers for the use of the local network). More recently, as competitive forces have eroded COLRs' ability to price these services above cost, federal and state law and policy has been to create federal and state funds so that implicit support (*i.e.*, support for basic local service that is built into other rates such as access rates) could be removed from the rates for other services and moved into explicit, sufficient and predictable funding mechanisms to ensure the preservation and advancement of universal service for all citizens who use the telecommunications network in South Carolina.

Q. DO WIRELESS SERVICE PROVIDERS BENEFIT FROM UNIVERSALLY AVAILABLE LANDLINE SERVICE?

A. Yes. Universal Service funding is provided to support the deployment of networks in sparsely populated, high cost areas and ensure basic voice service is available at an affordable rate. As a matter of equity, all those connected to the "universal" network should participate in support of the network. Wireless voice service benefits both when a

wireless call terminates to a location on the universally available network, and, likewise, when a customer residing in a high cost area places a call to the wireless network. In fact, from a practical standpoint, wireless service enjoys the same benefit of connection to high cost areas as the traditional landline service. However, today, only the landline service is supporting the high cost areas.

Q. HAS HOME TELEPHONE SPECIFICALLY SEEN THE IMPACT OF COMPETITION FROM WIRELESS PROVIDERS?

A. Yes. Home Telephone, like every other landline phone company, has seen a decline in landline customers. In our specific case, landline accounts have declined by approximately one-third over the last 14 years. We know that people have not stopped talking to each other. They simply are finding other ways to do so, including wireless service. Our experience is in line with national and statewide trends showing that over 40 percent of households now use only wireless service. Additionally, even those customers who do not "cut the cord" completely are using their wireless phones for more and more of the communications that historically would have been made using a landline phone.

Q. DO WIRELESS SERVICE PROVIDERS HAVE TOWERS IN HOME TELEPHONE'S SERVICE AREA?

A. Yes. There are 60 wireless towers in Home Telephone's service area. AT&T, Verizon Wireless, Sprint, and T-Mobile provide wireless service using these towers.

Q. DO WIRELESS SERVICE PROVIDERS HAVE RETAIL STORES IN HOME TELEPHONE'S SERVICE AREA?

A. Yes. Verizon Wireless has a retail store located at 481 N. Hwy 52, Moncks Corner, SC

29461. T-Mobile has a retail store at 509 US-52, Moncks Corner, SC 29461. Photographs of these retail locations are attached hereto as Exhibit B.

Q. DO WIRELESS SERVICE PROVIDERS ADVERTISE IN HOME TELEPHONE'S SERVICE AREA?

A. Yes. Each of the four major wireless carriers operating in South Carolina (AT&T Mobility, Verizon Wireless, Sprint, and T-Mobile) maintains a "Yellow Pages" advertisement/listing in Home Telephone's telephone directory. In addition, Home's service area is part of the greater Charleston metropolitan area. As such, our customers see all of the advertising in the metro area's print and television media outlets, and hear all of the metro area's ads on local radio stations. Most wireless advertising is very general in scope. In addition to print, television, and radio advertising, most wireless providers make use of their websites to promote their wireless service, including their "wireline" replacement service such as "Verizon Wireless Home Phone," "AT&T Wireless Home Phone," and "Sprint Phone Connect 3," all of which are designed to utilize existing in-house wiring to replace landline service.

Q. DOES HOME TELEPHONE HAVE INTERCONNECTION AGREEMENTS WITH WIRELESS CARRIERS?

A. Yes. Home Telephone has Interconnection Agreements with AT&T Mobility (New Cingular Wireless PCS, LLC), Verizon Wireless, Sprint (Nextel South Corp.), and T-Mobile South, LLC.

Q. WHAT IS THE SIGNIFICANCE OF A WIRELESS SERVICE PROVIDER HAVING AN INTERCONNECTION AGREEMENT WITH HOME TELEPHONE?

A. An interconnection agreement specifies the terms and conditions under which the companies will physically interconnect their networks so that they can exchange traffic. This allows the wireless service provider's customer to call a Home Telephone customer, and *vice versa*. Even carriers who do not have interconnection agreements can compete in a local area. In that case, they would exchange traffic indirectly through a transiting carrier. The fact that several wireless carriers have direct interconnection with Home Telephone indicates that the level of traffic exchanged is sufficiently large to warrant a direct connection.

Q. DO YOU HAVE FIRSTHAND KNOWLEDGE OF CUSTOMERS DROPPING LANDLINE SERVICE FOR WIRELESS VOICE SERVICE OR OTHERWISE SUBSTITUTING WIRELESS SERVICE?

A. Yes. Anyone who has children or grandchildren can probably attest to the fact that members of the younger generations are relying more and more on wireless devices. We are seeing more and more examples of people who never had a landline to begin with, or that are long-standing dual customers who eventually drop their landline. In Home Telephone's service area, this translates to declining access lines and local revenues. We are also seeing customers porting their landline telephone numbers to wireless carriers.

Q. HAVE WIRELESS SERVICE PROVIDERS OBTAINED BLOCKS OF TELEPHONE NUMBERS IN HOME TELEPHONE'S AREA FOR THE ASSIGNMENT OF LOCAL TELEPHONE NUMBERS TO END USERS IN HOME TELEPHONE'S AREA?

A. Yes. We know from North American Numbering Plan Administrator ("NANPA") data that 51 NPA NXX blocks have been allocated to AT&T Mobility, Verizon Wireless, Sprint, and T-Mobile in the Moncks Corner rate center. Each NPA NXX includes 1,000 telephone numbers, so wireless providers have either assigned or have the ability to assign to customers approximately 51,000 telephone numbers in the Moncks Corner rate center.

Q. IF CONSUMERS HAVE A COMPETITIVE CHOICE FOR VOICE SERVICE, IS IT NECESSARY TO CONTINUE TO PROVIDE UNIVERSAL SERVICE SUPPORT FOR LANDLINE VOICE PROVIDERS?

A. Yes. In fact that is exactly why universal service support is needed. No one is suggesting that every consumer has access to a fully competitive service. Both the Federal and State Telecommunications Acts recognize the natural tension between the availability of universally available communication serve and competition. Left to its own devices, a competitive market will only provide service where it is profitable to do so. In order to ensure consumers in all regions, including those in rural, insular and high cost areas have access to telecommunications and information services that are reasonably comparable to those services provided in urban areas at rates and with terms and conditions reasonably comparable to those in urban areas, both Federal and State statutes provided for universal service support mechanisms. In other words, competition does not ensure universal availability of service and, as recognized by Federal and State

lawmakers, could in fact destroy universal service without an explicit funding mechanism.

This is why it is critical to have carriers of last resort who have undertaken the obligation to provide service at not more than the Commission-authorized maximum stand-alone rates for the defined basic local exchange telecommunications service, and who must meet all service quality and provision rules established by the Commission for universal services. In effect, universal service support becomes even more important in a competitive market to make sure no consumer is left behind because he resides in a high-cost area that competitive providers would not choose to serve.

Q. WHAT ARE YOU ASKING THE COMMISSION TO DO IN THIS PROCEEDING?

A. The Commission should determine that all wireless service providers operating in South Carolina, including AT&T Mobility, Verizon Wireless, Sprint, and T-Mobile, are providing services in competition with the local telecommunications services provided by Home Telephone and others in the State.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

EXHIBIT A

South Carolina Telephone Coalition Member Companies

Bluffton Telephone Company, Inc.

Chesnee Telephone Company

Chester Telephone Company, d/b/a TruVista

Comporium, Inc. (f/k/a Rock Hill Telephone Company)

Farmers Telephone Cooperative, Inc.

Ft. Mill Telephone Company, d/b/a Comporium

Hargray Telephone Company, Inc.

Home Telephone ILEC, LLC d/b/a Home Telecom

Horry Telephone Cooperative, Inc.

Lancaster Telephone Company, d/b/a Comporium

Lockhart Telephone Company, d/b/a TruVista

McClellanville Telephone Company (TDS)

Norway Telephone Company (TDS)

Palmetto Rural Telephone Cooperative, Inc.

Piedmont Rural Telephone Cooperative, Inc.

PBT Telecom, d/b/a Comporium

Ridgeway Telephone Company, d/b/a TruVista

Sandhill Telephone Cooperative, Inc.

St. Stephen Telephone Company (TDS)

West Carolina Rural Telephone Cooperative, Inc.

Williston Telephone Company (TDS)


T-Mobile
509 F
SUPERCUTS
509 E
OPEN
HOTTEST GIFTS
IN STYLE
20%
60.12 fps
128 draw() calls


verizon wireless